STATE OF ARKANSAS

Arkansas Resources and Development Commission

Wayne C. Fletcher, Executive Director

DIVISION OF GEOLOGY

Harold B. Foxhall, Director

BULLETIN 14

PETROLEUM EXPLORATION IN EASTERN ARKANSAS
With
SELECTED WELL LOGS

By

Charles A. Renfroe

Little Rock, Arkansas

1949

STATE OF ARKANSAS

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CONTENTS

	Page
Abstract	5
Introduction	6
Well Location Map	6
Sources of Information	7
Correlation Chart	8
Tables	8
Well Logs	9
Importance of Accurate Well Records	10
Acknowledgments	11
Oil and Gas Possibilities of Eastern Arkansas	11-15
Possibilities in Beds of Tertiary Age	11
Possibilities in Beds of Cretaceous Age	12
Possibilities in Beds of Paleozoic Age	14
Other Possibilities	15
Selected Well Logs	17-155
Arkansas County	17
Clay County	25
Craighead County	37
Crittenden County	48
Cross County	56
Greene County	61
Independence County	63
Jackson County	71
Lawrence County	75
Lee County	77
Lonoke County	87
Mississippi County	91
Monroe County	93
Phillips County	100
Poinsett County	105
Prairie County	121
Randolph County	132
St. Francis County	134
White County	151
Woodruff County	156

ILLUSTRATIONS

PLATE

I. Base map of eastern Arkansas showing location of wells drilled in the area up to January, 1949 (in pocket)

ILLUSTRATIONS—(Continued)

PLATE Page

II. Combined electric and lithologic log of the Petroleum Products Corporation No. 1 Engler, sec. 17, T. 4N, R. 1W, St. Francis County, Arkansas (in pocket)

III. Combined electric, drilling time and lithologic log of the Ronnie Smith and Cockburn Oil Company No. 1, Robinson, sec. 14, T. 2N, R. 1E, Lee County, Arkansas (in pocket)

FIGURE

I. Index map of Arkansas showing location of area of this report ---------- 7

II. Generalized columnar section, following page ---------- 8

TABLES

I. List of wells drilled in Arkansas County ---------- 16

II. List of wells drilled in Clay County ---------- 24

III. List of wells drilled in Craighead County ---------- 36

IV. List of wells drilled in Crittenden County ---------- 47

V. List of wells drilled in Cross County ---------- 55

VI. List of wells drilled in Greene County ---------- 60

VII. List of wells drilled in Independence County ---------- 62

VIII. List of wells drilled in Jackson County ---------- 70

IX. List of wells drilled in Lawrence County ---------- 74

X. List of wells drilled in Lee County ---------- 76

XI. List of wells drilled in Lonoke County ---------- 86

XII. List of wells drilled in Mississippi County ---------- 90

XIII. List of wells drilled in Monroe County ---------- 92

XIV. List of wells drilled in Phillips County ---------- 99

XV. List of wells drilled in Poinsett County ----------104

XVI. List of wells drilled in Prairie County ----------120

XVII. List of wells drilled in Randolph County ----------131

XVIII. List of wells drilled in St. Francis County ----------133

XIX. List of wells drilled in White County ----------150

XX. List of wells drilled in Woodruff County ----------155

PETROLEUM EXPLORATION IN EASTERN ARKANSAS WITH SELECTED WELL LOGS

By

Charles A. Renfroe

ABSTRACT

Although a comparatively large number of wells have been drilled in eastern Arkansas, relatively little is known about the subsurface geology of the area. Many oil operators who have drilled wells in the past have failed to keep any sort of accurate record of the formations penetrated by their test holes. A study of some fifty-eight of the better well logs has, in a general sort of way, aided in evaluating the oil and gas possibilities of the area. In two wells an excellent record of the rocks drilled was obtained. They furnish key sections for future correlations (Plates II and III in pocket).

Oil and gas possibilities in Tertiary rocks are not good. Chances for commercial production in the Nacatoch are considered fairly promising. This sand is of sufficient thickness and porous enough to serve as a reservoir bed. Hovever, no appreciable shows of oil and gas have been encountered in the Nacatoch. At the base of the Cretaceous and overlying the Paleozoic floor occurs a basal sand. It has good possibilities as a future oil sand if found on structure or pinched out up the regional dip. Possibilities of Paleozoic production are unknown at the present time. Little is known about the character or subsurface distribution of the older rocks in eastern Arkansas. There also exists some possibility that intrusive igneous bodies, similar to the nepheline syenite plugs near Little Rock, may exist in the deeper portions of the Mississippi embayment. If so, oil traps may be associated with the igneous mass as flanking sands. They could possibly be formed by arching of the overlying sediments. Such structures either could be the result of tectonic forces or be due to compaction of the sediments surrounding the igneous body.

INTRODUCTION

Because of the growing interest of oil operators in the possibilities of commercial production in eastern Arkansas there has been an increasing demand for geological information concerning the area. This bulletin was compiled in an effort to supply as complete a record as possible of the test holes drilled in eastern Arkansas and to publish certain representative logs of each county in detail. In part this report is a supplement to "List of Arkansas Oil and Gas Wells" which was published as Information Circular 10 of the Arkansas Geological Survey in 1937. It brings up to date (August 1948) the listing of wildcat wells drilled in twenty counties of eastern Arkansas.

Relatively little is known about the subsurface geology of most of eastern Arkansas. Data concerning the deeply buried beds of the Gulf Coastal Plain are meager and often confusing. The Division of Geology hopes that the presentation in this bulletin of the available material on file will be of some service to oil operators prospecting in the area. Because of the uncertainty of stratigraphic correlations, lack of electric logs, and inadequate lithological descriptions in drillers' logs, some of the data presented herein is given without comment or interpretation. In those wells for which the Division of Geology has been fortunate enough to secure electric logs, sample logs, and other technical information, geologic formation tops are given.

The Division of Geology is planning to establish in the future as complete a sample library as possible, containing well cuttings of wildcats drilled in eastern Arkansas. The Division will cooperate with operators drilling in the area in such a way that valuable geological information will not be lost. It will be appreciated if any individuals or companies drilling in the area will save for the Division of Geology a set of cuttings taken at intervals of not more than ten feet and ship them to Room 446, State Capitol Building, Little Rock, Arkansas, express collect. Cloth sample sacks are available at the Division office and will be furnished at the request of any wildcatter drilling in eastern Arkansas.

Well Location Map

The area (see Fig. I) with which this bulletin is concerned lies in the Gulf Coastal Plain in Arkansas north of the Arkansas River. Plate I (in pocket) is a base map of the twenty counties included in this report. On this map is plotted the location of all wildcat wells, deep enough to be considered tests, of which any record has reached the files of the Division of Geology. The company name (lessee), the lease name (lessor), the total depth, and the surface elevation, where available, are plotted for each test hole.

Since all wells drilled before August, 1948 were unsuccessful in finding oil in commercial quantities, the standard dry hole symbol is used for all tests with the exception of wells whose logs are given in the text. For those particular wells a standard dry hole symbol with a double circle is plotted on the map.

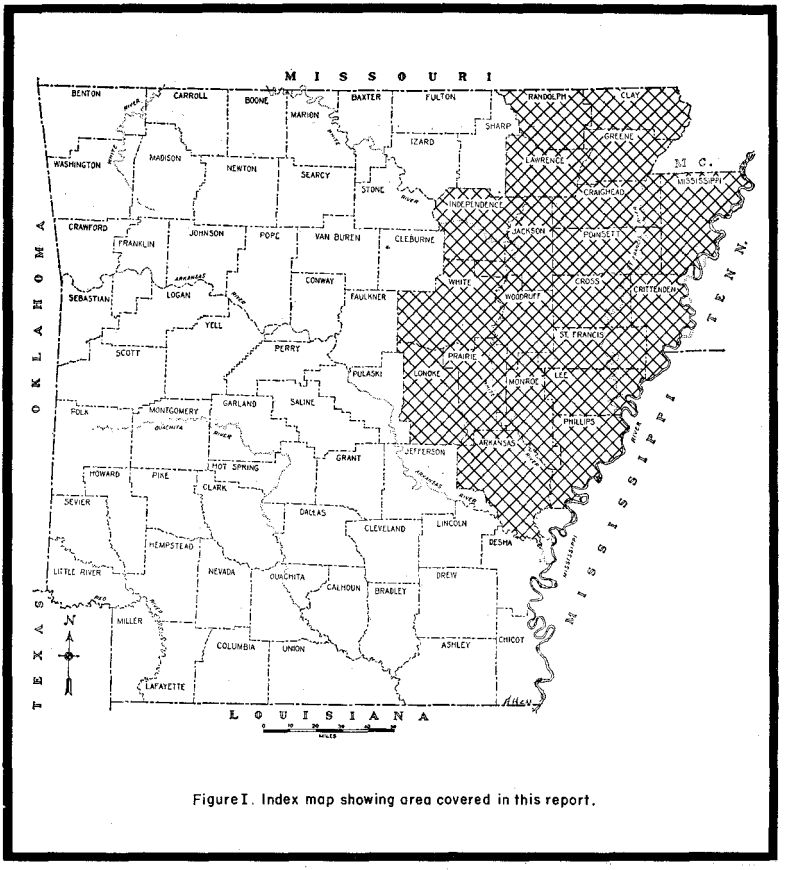

Figure I. Index map showing area covered in this report.

Many of the elevations were taken from topographic maps and are marked (±) in the tables showing wells drilled in each county. In a few wells the location within the section was not known. These were arbitrarily plotted in the center of the section since it was felt that on the scale of the map the error introduced would be negligible.

Sources of Information

Most of the data compiled herein is drawn from the log file of the Division of Geology at Little Rock, Arkansas. It represents material accumulated over a period of many years from several different state agencies. The Arkansas Railroad Commission, the Office of Commissioner of Conservation and Inspection, the Arkansas Corporation Commission, and the Arkansas Board of Conservation were the principal sources of information concerning wells drilled from 1923 to 1933, at which time the Arkansas Oil and Gas Commission was established. In 1923 an act was passed creating the Arkansas Railroad Commission and requiring the filing of logs with the Commission. Prior to that time no legal requirements existed, and consequently data on wells drilled before 1923 is not available in many cases. The Division of Geology has a few of

these older well logs on file which were obtained from oil and gas companies, geologists, and other individuals from various parts of the country.

In recent months the Division of Geology of the Arkansas Resources and Development Commission has initiated an active program to preserve and re-interpret data on previously drilled wells. An effort has also been made to insure the preservation of authentic information in currently drilling wells. In many cases the Division of Geology has furnished a petroleum geologist who was present during the drilling of certain key wells in the area from beginning to end. Well cuttings, cores, electric logs, and drilling time records were obtained from these wells which may otherwise have been lost. The record of two such wells are incorporated in Plates II and III of this bulletin. Sets of cuttings and cores from a few wells are available for study at the office of the Division of Geology.

Many of the wells drilled in northeastern Arkansas have been logged in detail by members of the staff of the Missouri Geological Survey at Rolla. In most cases they constitute the only reliable source of subsurface data in that part of the state. Dr. Edward L. Clark, State Geologist for the Missouri Geological Survey, has been kind enough to allow the writer to copy many of the logs and they are incorporated in the text with the proper acknowledgment.

Correlation Chart

A generalized columnar section and correlation chart (see Fig. II) is included in the text of this bulletin. The correlations are derived mostly from the literature. The chart is designed only for the convenience of oil prospectors working in the area and is not intended to be a stratigraphic study. The various subdivisions of the rock column are drawn on the best information available at this time and are subject to revision when further drilling has given a more complete picture of the stratigraphy.

Only the Cenozoic and part of the Cretaceous section is given in this chart, since that is the only part of the rock column which is penetrated by the majority of the wells drilled in the area. In all probability wells drilled in the extreme southeastern portion of the area and in the deeper part of the Desha basin will encounter rocks older than Ozan overlying the Paleozoic floor. So little is known about the stratigraphic relationships of pre-Ozan rocks that correlations with the Brownstown, Tokio and Tuscaloosa formations are considered premature at the present time.

No attempt was made to show the Paleozoic formations which would be expected underneath the Cretaceous rocks. A great deal more study is necessary before such a subdivision of the subsurface is possible. With the well data control which is available at the Division of Geology this is impossible at the present time.

Tables

At the beginning of each county unit is a list of wells which includes all known locations of wells of appreciable depth drilled before January 1, 1949. These wells have been checked and rechecked, but in a compilation of this sort errors are inevitable. Wells in which typewritten logs (mostly driller's logs) are available and for sale at the Division of Geology office, Room 446, State Capitol Building, are marked with an asterisk. Wells with logs included in this report are marked (†). The wells in which an electric log was run are marked (‡). The latter are not available at the Division of Geology office, but can be purchased from one of the firms that sell such logs to the general public.

If errors are found or if more complete information is known about any of these wells, the author will appreciate a note of correction.

Well Logs

Many of the logs given herein are driller's logs and are, therefore, subject to rather broad interpretations. In these driller's logs little editing has been done. Such logs should give the record in the words of the person or persons who originally prepared it. Detailed information, where available, is given in the notes at the end of the log. Some of this information is obtained from correspondence with other geologists and individuals, and some was derived from the interpretation of electric logs by the author. In a few counties, such as Lonoke and Lawrence Counties, no logs other than some rather poor driller's logs were obtainable. These logs were incorporated into this bulletin simply to make the record for each county as complete as possible.

In many of the older logs and in a few of the more recent ones numerous "shows" of oil and gas, "saturated sands," etc. have been noted. The greater majority of these so-called "shows" are not authentic. They represent uncertain identifications by drillers and others who have reported brown, tight sandstones as "saturated with oil," or labeled lignite layers as "asphalt," or watched a few bubbles on the mud pit and pronounced this rather common occurrence "a strong gas show." Although a few of the oil shows indicated in the logs are authentic, by far the greatest majority of them are either cases of mistaken identification or are "promoter's shows." Unfortunately many of these "shows" have been incorporated into the driller's logs without question, just as they were received from the operators. After several years, and with the heading of the Arkansas Oil and Gas Commission or the Division of Geology on the log form, they have become bona fide indications of petroleum in the minds of many persons. These "official" logs with their dubious oil and gas shows have actually been the sole basis for some costly wildcat drilling. For this reason the Division of Geology has decided to edit out all notations in the logs printed in this bulletin which indicate such shows. It is our belief that most of these "shows" are non-existent and may lead some operators to drill in what they may think is a promising area.

Exceptionally good sets of cuttings were obtained from two wells, the Petroleum Products Corporation No. 1 Engler in Sec. 17, T. 4 N., R. 1 W., St. Francis County, Arkansas and the Ronnie Smith and Cockburn Oil Co. No. 1 Robinson in Sec. 14, T. 2 N., R. 1 E., Lee County, Arkansas. A geologist from the Arkansas Division of Geology was present on both wells from the time they spudded in to the time they reached their total depth. In the Engler well an unusually complete set of cores was taken at certain very important formation contacts. In the Robinson well cuttings relatively free from cavings and three cores were obtained by the Division of Geology. In both wells the Paleozoic rocks were penetrated far enough to be definitely sure of the character of those beds. Since these wells were located in heretofore little known areas and because of the excellence of their record the lithologic log and the electric log of each well has been combined on the standard log scale (1" equals 100') and make up plates II and III of this bulletin (in pocket). In addition, a drilling time graph has been plotted on the Robinson well in order to give prospectors a relative conception of the time involved in drilling the various formations.

Importance of Accurate Well Records

In recent years there has been a trend in petroleum exploration toward a closer study of the stratigraphic relationships of the various beds of subsurface rocks. Not only is it necessary to know the lithology and regional relationships of certain beds in order to find the so-called "stratigraphic" traps but it is also doubly important that key beds for structural mapping be accurately identified and their correct depth below the surface be known within the smallest possible limit of error.

In wildcat areas where there are relatively few test holes drilled in a large region one of the first problems that must be solved by the petroleum geologist is the correct identification of rock units. Until he has done so he cannot with any degree of accuracy map out structures or localize stratigraphic pinchouts. The only way the geologist can secure information on deeply buried rock layers is by careful study of closely spaced well cuttings or by studying the electric log of wildcat wells in the area with which he is concerned. Because of the nature of rotary cuttings, lithological logs alone, uncorrected by electric logs, have many shortcomings due mostly to caving of previously drilled formations and to sample lag. On the other hand an electric log, of itself, is often unsatisfactory, particularly in wildcat country. Many important lithological characteristics of strata cannot be identified on an electric log. The best approach to the problem of subsurface stratigraphy is a combination of lithological log checked and corrected by comparing with an electric log of the same drill hole.

In eastern Arkansas for the past several years, many wells have been drilled. Yet for purposes of future oil exploration less than two dozen of them are of any value at all. In many ways eastern Arkansas is as little explored geologically as any major province in the entire country. It is at the point now, as far as the scientific recording of subsurface data is concerned, where Oklahoma, Texas and Kansas were twenty years ago. Many of the wells were drilled without keeping any sort of record

at all much less taking samples of the formations penetrated. In other instances sets of cuttings supposedly representing samples of all the formations taken at intervals of every ten feet during the course of drilling were actually shoveled from the mud pit and sacked after the well had reached its total depth. Such samples are of course worthless.

Eastern Arkansas has possibilities as a future oil producing region. Before its possibilities can be exploited some very intricate and confusing relationship of the subsurface strata must be worked out, if an intelligent exploration campaign is to be successful. In order to work out these problems, it will be necessary that more accurate records and far more accurate sampling be required of all operators drilling in the area than has been done in the past.

Acknowledgments

In most cases the source of information is noted in the heading of each log in the bulletin. The writer is also indebted to Dr. Edward L. Clark and Mr. John Grohskopf of the Missouri Geological Survey who generously permitted him to copy certain key logs from their excellent well log file. Mr. Tom Philpott of the Carter Oil Co. at Shreveport, has been very helpful and especial appreciation is due him for permission to use his micropaleontological data on the Petroleum Products Corporation No. 1 Engler in St. Francis County. Particular acknowledgment is due Mr. N. F. Williams of the Arkansas Division of Geology staff who not only aided in the preparation of the generalized columnar section but suggested the form used in presenting Plates II and III of this bulletin. Many other individuals have furnished information and have aided in various ways. To all of them grateful acknowledgment is made.

OIL AND GAS POSSIBILITIES OF EASTERN ARKANSAS

At the present time oil development in eastern Arkansas is in the exploratory stage. Although a considerable number of dry holes have been drilled, comparatively large areas of the state still remain untested. Most of the wells which have been drilled in the past were the result of hit-or-miss wildcatting. Very few of them were drilled on the basis of geologic or seismographic data. The main reason for this sort of exploration is that very little is known about the subsurface conditions of the area. Most of the test holes were financed by small companies and individuals who could not afford the cost of a thorough seismograph or magnetometer exploration program. Not enough was known about the stratigraphy of the shallower beds to warrant the expense of an extensive core drilling campaign.

In recent years there has been a growing tendency to rely more upon certain accepted scientific procedures which have proven successful in other areas. A few operators are beginning to keep reliable and careful records of their wildcat wells in order to use that data in finding more attractive areas for future drilling. The complex subsurface stratigraphy is gradually being worked out. It should be only a matter of time before the question of whether or not oil pools exist in some parts of eastern Arkansas is definitely answered.

Possibilities in Beds of Tertiary Age

Chances for accumulations of oil in rocks of Tertiary age are exceedingly remote in the opinion of the writer. Although many potential reservoir beds exist in the sands of the Wilcox group, none of them have shown any authentic indications of the presence of oil or gas. A few sandstones, particularly those with a shaly matrix, show a gummy brownish dead stain which may be some sort of hydrocarbon.

Most of the beds of the Wilcox Group in this area are considered to be non-marine in origin. Some of the beds in the Jackson and Claiborne Groups in the deeper portion of the Mississippi embayment are thin tongues of either marine, deltaic, lagoonal, or estuarine deposits. No indication of oil or gas has been found in any of the porous zones associated with them. In the extreme southeastern part of the area along the north and west rim of the Desha basin it is probable that some non-marine beds may grade down-dip into a thick, definitely marine facies in which case they offer greater possibilities as oil-bearing strata.

The Porters Creek formation of the Midway Group is a remarkably uniform deposit, both in thickness and lithology. It consists of blue-gray, clayey shale with ironstone concretions. It does not offer oil possibilities since no potential reservoir beds are developed within it. It is recognized that many geologists pick the top of the Midway at the base of the last well-developed porosity curve in the Wilcox. It is the author's belief, based on the examination of cuttings and cores, that the formation break occurs considerably below the lowermost Wilcox porosity curve on the electric log at a point where there is a marked lithologic break from silty sandstone to a dark gray or blue silty shale. Frequently hard sideritic layers occur at this lithologic break. The Clayton limestone formation of the same group is, in most of the wells drilled in eastern Arkansas, a tight calcareous shale, abundantly fossiliferous. No porous zones have been noted in this part of the section.

Possibilities in Beds of Cretaceous Age

The Arkadelphia formation underlies the Clayton limestone unconformably (according to the literature). Since it consists of shales and calcareous marls, it offers no possibilities as an oil reservoir.

Immediately below the Arkadelphia formation is the Nacotoch sand. It is a medium to coarse-grained sand of varying porosity. In most of the wells drilled in the area, this sand has shown several thick zones of well-developed porosity. In a few wells the Nacatoch is represented by an interval of tight shaly and dense limy sandstones. This is thought to be only a local condition.

Usually at the top of the Nacatoch there occurs a hard dense sandy limestone from six inches to two feet in thickness. Drillers call this the "cap." This hard calcareous layer, however, does not always overlie the Nacatoch sand. In some wells as much as ten feet of soft porous sand were penetrated before the first cap was reached. All of the wells

in the area that have drilled through the Nacatoch have encountered several of these dense layers through the sand section. As a rule they are abundantly fossiliferous and glauconitic.

The Nacatoch sand does not grade basinward into tighter more shaly or more calcareous rock within the limits of the area covered by this report, as was once believed by some geologists. In the McAlester Fuel Company No. 1 Welch, Sec. 24, T. 4 S., R. 2 E., Phillips County, Arkansas, deep within the Mississippi embayment, the Nacatoch sand is 170 feet thick, of which 140 feet has a well-developed self-potential curve on the electric log.

In northeastern Arkansas and southeastern Missouri the Nacatoch is fresh-water bearing; in some cases with enough hydrostatic pressure to constitute an artesian aquifer. In some instances the Nacatoch sand in the above area shows dead staining and asphaltic material. Further down-dip the sandstone contains neither salt nor fresh water in appreciable quantities, although it shows fairly good porosity on the electric logs. Drill stem tests taken in the Nacatoch of this area usually recover a few gallons of drilling mud and nothing more. In Monroe County in the vicinity of Cotton Plant some of the wells were reported to have flowed salt water with a small amount of gas. Most of the wells drilled into the Nacatoch in St. Francis, Monroe and neighboring counties have reported small shows of gas in the upper part of the Nacatoch but never in any considerable quantity.

The Nacatoch is a potential reservoir bed. If found on a structure with enough closure, or if the truncated edge of the formation is found beneath sufficient cover, there is a good chance that oil or gas may be present.

Questions that have yet to be answered concerning the Nacatoch are: (1) The exact relationships between the subsurface Nacatoch in northeastern Arkansas and the surface outcrops in Independence and Lawrence Counties. (2) The position of the truncated edge of the Nacatoch beneath the Tertiary sediments southeast of the Paleozoic-Cenozoic contact in Lonoke, White, Woodruff, and Jackson Counties. (3) What is the age of oil accumulation or migration? Were traps, either structural or stratigraphic, present at the time of oil formation or migration? (4) At the present time are there any Nacatoch structures of any type with sufficient closure to form traps for oil beneath the Teritary rocks? (5) Are the fluids now present in the Nacatoch connate fluids, or has there been any sort of flushing action since the formation of oil?

Below the Nacatoch is a sequence of limy shales, clays, and marls of Saratoga, Marlbrook, and Annona age. No beds of sufficient porosity to serve as oil reservoirs are present in this part of the section.

Immediately overlying the Paleozoic floor over a large part of this area is a glauconitic, poorly sorted, usually lignitic, pyritic sandstone. This sandstone has a well-developed self-potential curve on the electric log in most wells. Lithologically it resembles the Tokio sandstone of southeastern Arkansas and has been so correlated by several geologists. In the

opinion of the writer this sand actually represents a basal marginal conglomerate laid down by upper Cretaceous seas transgressing across the beveled floor of the folded Paleozoic rocks. Such a sand would rise in the time scale up the regional dip. In Lee County (Ronnie Smith and Cockburn Oil Co. No. 1 Robinson, Sec. 14, T. 2 N., R. 1 E.) in southcentral part of the area, it underlies dark grey fissile micaceous sandy shales of Ozan age. In St. Francis County (R. S. Barnwell No. 1 Tombaugh, Sec. 8, T. 4 N, R. 1 W.) this sand is immediately below calcareous shales and marls of Annona age. In Clay County it occurs as a relatively thin rubble zone below beds of Saratoga age (Canadian-American Oil Co. No. 1 Dovie Elder, Sec. 9, T. 20 N., R. 8 E.). From western Lee County northward to eastern Clay County, a distance of about 120 miles, this basal sandstone has risen in the time scale from Ozan to Saratoga time.

This formation has good possibilities as a future oil source, either on some type of structural trap, or as a wedge-edge pinchout up-dip.

In the northern portion of the area the basal sand is, in most wells, a tight chert conglomerate with a shaly matrix. Southward down the regional dip it is dominantly a glauconitic quartz sand with excellent porosity. The chert conglomerate (which may sometimes contain a small amount of sand) is in all probability derived from the reworked material of the underlying Cambro-Ordovician limestones and dolomites. Apparently the kind of Paleozoic rock underlying the basal sand has a genetic relationship to the development of porous zones within the formation. If this relationship is true the truncated edge of the St. Peter sandstone should be accurately mapped in the subsurface of northeastern Arkansas. There is a good possibility in that immediate area that the basal sand, with the St. Peter as a source of sediments, would be of sufficient porosity and of such a lithologic nature as to constitute an excellent reservoir bed. Deeper in the Mississippi embayment Paleozoic rocks as young as Pennsylvanian served as a source of sediments for the basal sand.

Structural conditions of the underlying Paleozoic rocks would also have an influence on the occurrence and development of the basal sand in sufficient thickness and of such character as to be a potential porous zone. There is some evidence that the sand is missing in a few wells that were far enough down the regional dip for it to be expected. These wells may have been drilled on Paleozoic highs and the basal sand may be flanking the folds rather than overlying them. One well drilled on the crest of a high should not condemn the prospect. At least three wells should be drilled on any seismograph, gravimeter or magnetometer high before it should be considered adequately tested.

Possibilities in Beds of Paleozoic Age

At the present time very little is known about the stratigraphy or the oil and gas possibilities of the Paleozoic rocks. In the southern part of the area, which is underlain by Pennsylvanian rocks, there is some small probability of finding gas production similar to that of the Ft. Smith area. One well in White County (R. B. Curtis No. 1 Sheridan, Sec. 31, T. 6 N., R. 7 W.) had a small show of either high gravity oil or

gas in a fine-grained tight sandstone of Atoka age. Northward the Cretaceous rocks onlap progressively older and older formations up the south flank of the Ozark uplift until, in Clay County, the Saratoga formation is directly above rocks of lower Ordovician age. A few of the wells in this portion of the area have logged oil stains in limestones and dolomites. Porous zones are known to be present in several of the Ordovician formations. Asphaltic shows are fairly common, and in Missouri they have been found in Paleozoic rocks as old as Cambrian.

The St. Peter sandstone, which is roughly the equivalent of the Ordovician Wilcox of Oklahoma and Kansas, where it is a prolific producer, is a porous, coarse-grained, usually well-sorted, almost pure quartz sand. It should be an excellent reservoir bed, but no indications of commercial oil have yet been found in it. Very few wells in Arkansas have drilled to or through it.

In northern Arkansas, flanking the Ozark dome of Missouri, is a belt of truncated older Paleozoic rocks ranging in age from Mississippian to Cambrian. On the geologic map of the state the outcrop pattern of these rocks may be seen to pass beneath the younger rocks of the Gulf Coastal Plain. Although this belt of truncated older rocks is definitely known to be present below the Cretaceous formations, very little is actually known about their position below the younger sediments.

Geologists are beginning to realize that the buried Paleozoic rocks of eastern Arkansas and adjacent states are not only stratigraphically complex, but that certain puzzling regional structural conditions exist which must be worked out. Major unconformities existing within the Paleozoic sequence, such as the one at the base of the Mississippian (post Devonian pre-Mississippian) must be carefully studied. This particular unconformity is known to be one of the most important in the Mid-Continent region. There are several possibilities for oil production associated with unconformities of this type. It is extremely important that the subsurface continuation of this unconformity, and others, be worked out in northern and eastern Arkansas. Until these problems can be worked out, the Paleozoic rocks as potential oil-producing formations are an unknown factor.

Other Possibilities

There is some probability that igneous intrusions similar to the nepheline syenite plugs of the area around Little Rock, Arkansas, may be present in the subsurface of eastern Arkansas. Some magnetometer maps indicate that such bodies may exist at depth. Possibilities of oil production in flanking sands around such bodies, or doming of overlying sediments above the intrusive mass, should not be discounted. Such doming could be accomplished either by tectonic movements or by compaction of surrounding sediments.

ARKANSAS COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†* 2	Ark. Oil Lease & Development Co.	Griffith, Allen	300'N 300'E SWc NE	7- 2S- 5W	3251(?)	210	10-12-21	10-11-23
14	Ark. Oil & Gas	Fischer No. 2	412'S 12'W NEc NW NW	6- 6S- 4W	1628	182 ±	5- 9-35	11-30-35
* 15	Ark. Development Co.	Rose, Charles	NWc SW NW	11- 7S- 4W	2550	166	1924	12-20-26
3	Briarton Well		W NW	20- 2S- 5W	1147	180 ±	1908	
12	Dallas, H. L.	Dallas, H. L.	?	7- 6S- 3W	1400	175 ±	1923	1923
‡†*22	Flesh, David	Rosencrantz	Cen NE SE SE	2- 3S- 6W	3635	219 DF	7-31-47	8-13-47
9	Garlick, et al	Burks	4 mi W of DeWitt	2- 5S- 4W	1000	195 ±	1924	1924
16	Gillett Oil & Gas Co.	Strode, H. L. No. 2	SE NW	11- 7S- 4W	2224	155.1		1930
17	Gillett Oil & Gas Co.	Strode, H. L. No. 1	SE NW	12- 7S- 4W	2145	155.1	1924	12-20-26
13	Grand Prairie Realty Co.	Fischer No. 1	200'S 200'E NWc NE NW	6- 6S- 4W	3935	180 ±	11- 7-34	4- 7-35
‡†*18	Fohs-Loffland	Miller, Louis	SE NE	33- 5S- 4W	4560	190 DF	3- 3-40	3-18-40
19	Jay Oil Co.	Trice, C. P. & Bettie	Cen NE SW	16- 2S- 3W	1390	205 ±		1940
* 4	Lorenz, Chas.	Lorenz, Chas.		36- 2S- 5W	785	210 ±	1920	1920
* 7	Moberly Drilling & Leasing Co.	Weaver	NWc NE	17- 3S- 5W	3166	228	9-26-21	11- 1-23
* 8	Old Glory Oil & Gas Co.	Perry, Art	SE SW	20- 5S- 2W	2050	200	5-10-21	9-23-21
* 20	Robinson, C. W.	Fox, E. P.	Cen SE¼	23- 5S- 3W	4372	190	5-31-41	6-12-41
‡†*21	Ryan Consolidated Pet. Co.	McCollum Roy	Cen NW NW	24- 2S- 5W	3731	215	3-15-47	3-27-47
11	Smith Lumber Co.	Smith Lumber Co.		3- 5S- 5W	1300	186 ±		
* 5	Stuttgart Oil & Gas Co.	Goldman		5- 3S- 5W	1200	119.1	1923	1923
1	Wright, Ivan & Allen, R. H.	Price	NWc SW SE	9- 2S- 3W	236	197	8-12-33	1-10-34

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

ARKANSAS COUNTY

Company: David J. Flesh — Well No. 1
Lease: Rosencrantz et al
Location: Cen NE¼ SE¼ SE¼ — Sec. 2-3S-6W
Total Depth: 3635 — Elevation: 219 D.F.
Began Drilling: 7-31-47 — Completed: 8-13-47
Casing Record: 10-¾" @ 262'
Source of Information: David J. Flesh, Geologist

Log of Well

Bottom (Feet)	Formation
0-98	Surface sds and clays
160	Clay
175	Sand
190	Clay
230	Heavy coarse gravel
426	Sd. shells, shale
548	Shale
650	Sand and shale
800	Sand and lignite
1000	Shale-strks of sand
1190	Broken shale and shells
1215	Sand
1291	Shale and shells
1538	Black shale and some sand
1600	Shale (ran straight hole tester 1547' - hole ½ deg. off vertical)
1647	Sdy sh.
1684	Lignite (solid coal)
1710	Sh. and lignite
1800	Shale with sd. strks.
1841	Shale
1880	Shale
1905	Lignite and shale
2100	Sh. and shells
2175	Shale
2215	Solid lignite coal (samples show Top Midway at 2250-2260 in 10 ft. sample)
2615	Black shale (Midway)
2641	Black shale with sd strks.
2658	Black shale and lignite (prob. recirculated in spite of shale shaker)
2704	Black shale (still in Midway)
2741	Black shale few sd. strks.
2783	Black shale few sdy. lime strks.
2922	Black shale (still in Midway)
2953	Black shale (still in Midway)
3022	Black shale
3028	Black shale - Limy strks.
3044	Hard limey sd. and fossil shells, CAP RK. (Nac. Sd.)
3044-3050	(CORED) Hard calcareous sd. with very numerous fossils.
3050-3054	(CORED) Hard calcareous sd. with very numerous fossils.
3054-3071	(CORED) Soft, grey, slightly calcareous sds. and shales with clean sand streaks at top carrying slight oil odor on fresh break. Few beads of oil oozing from one 8" piece of sdy. shale (laminated). Few gas bubbles breaking through mud on several thin strks of sand. Entire core has very strong salty taste from top to bottom. (TOP NAC. By Schlumberger 3024). Went back in hole and drilled ahead with 9" Rock Bit.
3071-3170	Sand and sdy. sh. with many shells
3215	Shale
3278	Sticky shale, shells, lime and sand streaks

ARKANSAS COUNTY—Continued

Bottom (Feet)	Formation
3384	Lime and shale
3425	Shale-hard, black brittle
3519	Very hard shale and lime (Top Paleozoics by Schlumberger 3464)
3538	Very hard shale and lime
3593	Very hard shale and hard quartzite sand
3635	Very hard lime and brittle splintering shales, Drillers T.D. 3635; Schlumberger T. D. 3633.

Cut side-wall cores by Schlumberger sample gun, as follows:

SIDEWALL CORE RECORD

3583 - Hard black shale w/some quartzite and micaceous material (Age probably Atoka of Pennsylvanian system).

3518 - (Same as above but with more quartzitic material and much pyrite).

3470 - (Numerous hard, tightly cemented, dense, quartzite fragments with flakey splintered hard shales of high micaceous content) (age still in beds of Atoka age-Pennsylvanian system).

Top of Paleozoics by Schlumberger 3464 feet.

3075 - sdy sh and sd-very salty taste (no odor-no show) AGE (NACATOCH). 3044-sdy. sh. and sd-foss., slightly calc. porous salty taste-no odor-no show (Age Nacatoch.)

3026 - hard calc. foss. sdy limes and limey shales (slight salt taste no odor no show (Age Nacatoch).

1801 - almost pure lignite coal some sh. no color - no shows.

1798	Same as above
1465	Dark brown to tan, very porous water sd, coarse grained—no odor—no show.
1440	Dark brown to tan, very porous water sd.—no odor—no show
1435	Dark brown to tan, very porous water sand—no odor, no shows.
1340	Very lignitic sand with shale partings no odor—no shows

All cores from 1801 to 1340 were in Wilcox group.

ARKANSAS COUNTY

Company: Ryan Consolidated Petroleum Corp. Well No. 1
Lease: Roy McCollum
Location: Cen NW¼ NW¼ Sec. 24-2S-5W
Total Depth: 3731 Elevation: 215
Began Drilling: 3-15-47 Completed: 3-27-47
Casing Record: 8 5/8" @ 400' w/150 sacks
Source of Information: David J. Flesh, Geologist.

Log of Well

Bottom (Feet)	Formation
0-412	Surface sands and clays
533	Blue clay
593	Gumbo
833	Sand (water)
863	Lime and shale streaks
933	Sand and shale
953	Solid lignite coal bed
970	Shale

ARKANSAS COUNTY—Continued

Bottom (Feet)	Formation
973	Lime
1030	Shale - lime streaks
1180	Sand and shale
1210	Sand
1340	Shale and lignite
1660	Sand and shale
1812	Shale
1998	Shale and shells
2343	Sand and shale (2343 is base of Wilcox by samples)
2543	Hard shale (Midway)
2760	Hard shale - some sticky streaks
2804	Hard shale
2927	Hard shale and sand streaks
2979	Lime, sand and shells
2992	(cored) Hard fossiliferous limey sand and shells — Nacatoch Sand
3020	Cored—Foss. sand and sandy shale with shells (salt water)
3175	Sand, shale and shells (Base Nacatoch from cuttings and drill time approx. 3155
3286	Shale—hard lime streaks
3300	Hard lime and shale
3350	Shale, hard lime—streaks of shell
3415	Hard lime and shale
3450	Soft grey lime and shells
3490	Lime and shale
3545	Fossiliferous sand (coarse and porous—salt water)
3560	Sand Tokio ? (Austin) — Lithology from samples by Flesh. Hard black splintery shale
3731	Hard shale flint and Novaculite at top—Bottom of hole in Atoka (Paleozoic)

Note: By C. A. Renfroe, Arkansas Division of Geology.

Tops from electric log.

Wilcox	1370
Midway (Porters Creek)	2350
Midway (Clayton)	2860
Arkadelphia	2930
Nacatoch	2993
Saratoga-Marlbrook-Annona	3210
Ozan	3470
Paleozoic (Atoka?)	3530

The "Ozan" sandstone from 3490 to 3530 had a very well developed porosity kick on the electric log. This sand may be the basal marginal conglomerate (unconformity sand) that immediately overlies the Paleozoic floor in this area. Such a sand would rise in the geologic time scale up the regional dip. In this well it is apparently Ozan in age.

ARKANSAS COUNTY

Company: Fohs-Loffland Bros. Well No. 1
Lease: Louis Miller
Location: Cen SE¼, NE¼ Sec. 33-5S-4W
Total Depth: 4560 Elevation: 190 D. F.
Began Drilling: 3-3-40 Completed: 3-18-40
Casing Record:
Source of Information: Arkansas Oil & Gas Commission.

Driller's Log of Well

Bottom (Feet)	Formation
40	Clay and sand
140	Soft water sand
170	Sand
310	Shale
340	Sticky shale
380	Shale
490	Sand
650	Shale and shells
800	Sand and shells
1025	Shale and sand
1154	Sand
1227	Sand
1247	Sticky shale
1277	Sandy shale
1483	Sand and shells
1670	Sandy shale
1705	Sand
1750	Sandy shale
1800	Shale
1924	Sand and shells
1960	Shale
2215	Sand
2370	Sand and lignite
2558	Sand and lime shells
2755	Sand
2785	Shale
2812	Sand
3085	Sand
3130	Shale
3160	Sand
3220	Broken sand and shale
3250	Sandy shale
3295	Sticky shale
3444	Shale
3500	Shale
3597	Hard sand
3610	Shale and lime
3620	Shale
3640	Shale
3657	Sticky shale or gumbo
3661	Shale
3666	Shale (core)
3705	Shale and lime shells
3824	Shale, sand and lime
3870	Shale
3890	Sandy shale and sandy chalk (Core)
3891' 6"	Sand
3899	Hard sandy shale
3956	Shale
3958	Sand
3990	Sandy shale
4037	Shale
4145	Black shale
4180	Shale
4190	Shale with white sandy chalk (core)
4205	Gray marly and sandy chalk (core)
4220	Dense gray marly and sandy chalk (core)
4230	Sandy chalk
4273	Sandy shale
4298	Shale and strks of clay
4435	Shale and lime streaks
4480	Shale
4500	Broken and soft shale
4534	Shale and shells
4550	Shale and shells
4560	Gray slaty schist (core) T.D.

CORE RECORD

Core No. 1 3661-3666 Rec. 2' 6" Dark gray compact brittle

ARKANSAS COUNTY—Continued

Bottom (Feet)	Formation
	shale; fossiliferous and calcareous.
Core No. 2 3870-3890 Rec. 14′ -0″	
	2′ 0″ Soft gray glauconitic sand; slightly shaly; no odor or cut.
	1′ 0″ Firm gray micaceous shale, slightly sandy.
	1′ 6″ Hard firm gray micaceous sand, slightly glauconitic.
	9′ 6″ Firm gray shaly glauconitic and micaceous sand; very calcareous; core throughout reacted to acid treatment.
Core No. 3 3890-3899 Rec. 9′ 0″	
	1′ 6″ Fine grained glauconitic gray sand
	7′ 6″ Hard sandy shale
Core No. 4 3957-3977 Rec. 17′ 0″	
	5′ 0″ Sandy shale
	12′ 0″ Dark gray compact brittle calcareous shale
Core No. 5 4180-4190 Rec. 8′ 0″	
	1′ 0″ Brittle sandy shale
	7′ 0″ Hard dense gray sandy chalk
Core No. 6 4190-4205 Rec. 15′ 0″	
	15′ 0″ Gray marly and sandy chalk with occasional strks of sand
Core No. 7 4205-4220 Rec. 15′ 0″	
	15′ 0″ Dense gray and white chalk; marly and sandy
Core No. 8 4550-4560 Rec. 10′ 0″	
	10′ 0″ Gray slate and schist graphitic in spots

Geological tops from electric log in Arkansas Division of Geology files:

Ripley	3419
Selma chalk	3620
Selma sand	3870
Eutaw	4010
Paleozoic	4518

ARKANSAS COUNTY

Company: Arkansas Oil Lease & Development Co. Well No. 1
Lease: Griffith, Allen.
Location: 300′ N, 300′ E, SWc NE¼ Sec. 7-2S-5W
Total Depth: 3251 Elevation: 210
Began Drilling: 10-12-21 Completed: 10-11-23
Casing Record: 12½″ @ 170′
Source of Information: Arkansas Division of Geology.

Driller's Log of Well

Bottom (Feet)	Formation
12	Clay
100	Sand
142	Big water sand (boulders in bottom of sand)
217	Gumbo
220	Hard shell
260	Water sand
340	Sandy shale
380	Gumbo
588	Gumbo and shale
833	Water sand (coarse, white, took lots of mud)
867	Blue shale
877	Gumbo and blue shale

ARKANSAS COUNTY—Continued

Bottom (Feet)	Formation
922	Gumbo (very sticky)
925	Hard rock (very hard)
946	Hard sandy shale and boulders (rough and hard)
947	Hard rock
951	Hard blue sand (cut slow)
954	Hard sand and boulders (hard and very rough)
960	Hard blue shale
965	Hard rock
967	Hard rock and boulders
972	Tough brown slate
980	Brown packed sand (took core at 979' to 980')
1004	Brown sandy slate
1035	Grey packed sand and boulders
1037	Hard rock
1041	Hard sand and boulders
1047	Coarse, hard, brown sand and boulders
1070	Grey sand
1072	Brown packed sand and boulders
1081	Brown packed sand
1121	Brown packed sand
1123	Brown packed sand and sand rock
1126	Hard sand, coarse gravel and pieces of broken lime rock
1128	Hard rock
1258	Sandy clay and shale
1261	Sand rock
1298	Very hard cutting brown sandy shale
1369	Hard grey sand rock (sharp grit)
1380	Broken sand formation, signs of lignite 1371 to 1376
1395	Hard rough grey sand rock
1421	Grey sand rock (coarser and not so hard)
1426	Sandy blue shale
1450	White coarse sand
1455	Hard grey sand (much finer than above)
1498	Hard grey sand rock and blue shale
1545	White sand rock, sand and boulders
1566	Grey sand
1604	Shale, gravel, shell, sand and boulders
1620	Hard black sandy shale
1643	Dark brown shale and grey packed sand
1654	Hard, coarse, white sand
1670	Fine grey packed sand
1703	Gumbo (brown)
1711	Lignite
1715	Brown shale
1718	Grey hard sand rock
1760	Tough brown shale
1763	Lignite (much harder than from 1703 to 1711)
1785	Shale and sand in thin layers
1830	Blue shale
1853	Blue gumbo
1896	Grey packed sand, sand rock and boulders
1901	Hard blue limestone
1923	Hard shale
1956	Dark shale
1958	Hard shale and boulders
1962	Hard rock and boulders
1968	Hard brown lime rock
1973	Grey lime rock
2014	Brown shale
2049	Blue gumbo
2053	Brown shale
2127	Brown shale (soft)
2129	Grey lime rock
2140	Soft brown gumbo
2164	Tough brown shale
2207	Dark blue shale
2208	Light brown lime rock
2210	Soft brown shale
2238	Dark blue gumbo
2281	Dark blue shale
2307	Hard blue shale
2322	Blue gumbo
2352	Dark blue shale

ARKANSAS COUNTY—Continued

Bottom (Feet)	Formation
2360	Blue gumbo
2566	Dark blue shale
2572	Hard blue shale and boulders
2584	Gumbo
2592	Tough dark blue shale
2670	Tough dark blue shale
2745	Dark blue shale
2775	Tough blue gumbo
2789	Very dark blue shale (hard)
2790	Hard light brown lime rock
2802	Tough blue shale
2842	Dark blue shale (more brittle)
2850	Tough blue shale
2872	Hard brown lime and some sand lime
2876	Soft brown sand rock (very rotten)
2882	Brown lime rock (broken)
2900	Blue sand and some lime
2905	Blue sand and lime (hard and sharp)
2912	Grey sand and lime
2929	Light sand and lime (hard and very sharp)
2931	Hard grey sand and boulders
2996	Hard sandy shale and boulders
3010	Dark gumbo (bluish brown)
3026	Shale, mixed color dark blue, brown and some shell
3065	Sandy shale, layers of tough sticky shale
3115	Tough grey shale with chalk
3145	Hard dark blue shale
3196	Hard dark grey shale with white chalk
3224	Blue shale and white chalk (no grit)
3233	Tough sticky brown gumbo
3251	Dark blue shale (hard and shows pyrites and some shell)

CLAY COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
* 2	Arkmo Oil Co.	Gossett, Jesse	507'N 410'E SWc NW NW	29-21N- 8E	907	300	6-11-27	1927
†* 10	Canadian American Oil	Elder, Dovie	300'S 300'W NEc NE NW	9-20N- 8E	1198	370		1938
* 1	Clay County Oil & Gas	Marshall	NWc SW SE	17-21N- 5E	1855	300	1922	1923
†* 15	Clay County Oil Co.	Ross Norred	SW SW SW	11-20N- 8E	1285	284		6-1944
†* 11	Ginther, A. L.	Gordon	120'N 116'W SEc SE NE	22-19-N- 7E	1309	315		1939
†* 3	Jeffus, S. C.	Underwood, Frank	510'N 350'W NW SE	4-20N- 8E	1253	488	10- 4-30	7-22-31
4	Jeffus, S. C.	Underwood, Frank No. 2	60'N of No. 1	4-20N- 8E	1350	510 ±	1931	11- 9-31
9	Nelson, J. G.	Underwood, Frank	396'N 330'W SEc SW NE	4-20N- 8E	1362	498 ±	1937	1937
5	Richardson Oil Co.	Marshall	200'N 200'E Cen	28-20N- 9E	1443	270 ±	1-16-21	11- 2-21
6	Richards Oil Co.	Marshall	?	18-21N- 5E	1440	298 ±		1921
* 7	Richards Oil Co.	Marshall	200'N 200'E SWc	20-20N- 8E	1519	269	1921	1922
†* 8	Texas Piggot Oil Co.	Sallee, R. P.	210'S 175'E SWc SW SW	11-20N- 8E	1233	300	1926	1926
†* 16	U-Tex Oil Company	W. C. Burns-Travis	SW SW SW	26-20N- 7E	1338	490		4-26-43

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

CLAY COUNTY

Company: U-Tex Oil Company Well No. 1
Lease: W. C. Burns—Travis
Location: SW SW SW Sec. 26-20N-7E
Total Depth: 1338 Elevation: 490
Began Drilling: Completed: April 26, 1943
Source of Information: Missouri Geological Survey Log No. 8349, samples studied by Grohskopf

Log of Well

Bottom (Feet)	Formation
	ALLUVIUM:
45	Gravel and clay
	WILCOX GROUP:
80	Yellow sandstone
143	White sandstone
145	Clay
152	White sandstone
159	Brown clay
237	White sandstone
240	Light gumbo
247	Lignite
275	Brown shale
295	Blue shale
300	Fine, angular gray sandstone
338	Sandy shale
373	Sandstone
390	Blue gumbo
395	Sandstone
412	Blue gumbo
422	Green shale and lignite
427	Blue shale
428	Lime shell
430	Blue shale
450	Brown shale
458	Blue shale
460	Lime shell
475	Blue clay
495	Water sand
505	Black shale
520	Water sand
538	Black shale
555	Water sand
565	Brown sticky gumbo
605	Hard sandstone
	MIDWAY GROUP
	PORTERS CREEK FORMATION:
720	Blue shale and gumbo
740	Blue sandy shale
750	Blue shale
765	Lime shell
772	Shale
776	Lime shell
790	Black shale
810	Black shale, lime shell
814	Black shale
816	Lime
850	Black shale
865	Blue shale and shell
	MIDWAY GROUP
	CLAYTON FORMATION:
875	Lime
	CRETACEOUS SYSTEM
	UNDIFFERENTIATED:
905	Sandy shale
942	Blue shale
1020	Medium-grained, angular sandstone, glauconitic
1050	Gray, medium-grained, angular sandstone, pyrite
1100	Medium to coarse-grained sandstone
1115	Very fine-grained angular sandstone
1125	Sandy micaceous shale
1150	Green micaceous, slightly sandy shale
1152	Glauconitic limestone
1160	Green, micaceous sandy shale
1170	Green, micaceous shale, sandy
1200	Gray-green micaceous sandy shale, pyrite nodules
1205	Angular sandstone
1220	Gray-green shale

CLAY COUNTY—Continued

1230	Blue-gray micaceous shale
1240	Glauconitic shale, limy shale, siderite
1285	Sandy, blue shale
1302	Glauconitic, poorly sorted sandstone (dry)
	ORDOVICIAN SYSTEM
	EVERTON FORMATION (?):
1338	Finely crystalline, sandy dolomite
	T. D. 1338
	Water at 1332 rose 1000 feet in hole

CLAY COUNTY

Company: S. C. Jeffus (Texas Piggot) Well No. 1
Lease: Frank Underwood
Location: 510′ N 350′ W of NW¼ SE¼ Sec. 4-20N-8E
Total Depth: 1253 Elevation: 488
Began Drilling: 10-4-30 Completed: 7-22-31
Casing Record: 10″ @ 303

Source of Information: Missouri Geological Survey log No. 2664 samples studied by Farrar and McQueen 6-28-38 from cuttings furnished by Ira T. Harlan, Piggot, Ark.

Log of Well

Bottom (Feet)	Formation
	WILCOX GROUP AND YOUNGER:
	(Samples begin at 320)
330	Gray sandstone and yellow clay
340	No sample
350	Sub-angular sandstone, some igneous material
360	Chiefly sub-angular sandstone, some highly polished grains, trace lignite, some cementation of grains into lumps by iron
417	Sandstone as above
424	Lignite
451	No sample
458	Gray clay, micaceous, hard in spots
469	No sample
490	Gray clay as above, carbonaceous material
508	Micaceous gray shale with rounded sand grains
	MIDWAY GROUP
	PORTERS CREEK FORMATION:
509	Brown siderite
520	Gray sandy clay, granite pebbles
530	Yellowish clay, sand and granite pebbles
540	Brownish clay, some sandstone, somewhat micaceous
595	Greenish clay with sand
608	Greenish sandy clay
610	Lignite
622	Greenish sandy clay
623	Siderite
694	Greenish clay with some sandstone
700	Greenish clay, internal cast of pelecypod
714	Gray clay, trace sandstone, some mica
734	Gray clay with sand grains
738	Siderite

CLAY COUNTY—Continued

Bottom (Feet)	Formation
760	Gray to reddish yellow clay
770	Gray clay, slightly greenish shade
780	Gray clay, mica flakes and sand
790	Gray clay and sand
810	Gray clay and sand, greenish color
830	Greenish clay with mica and sand
840	Seam of pyrite, hard, fragments of fossil casts?
850	Green micaceous clay and sand
870	Clay as above, lumps of brown and white sandstone
880	Fragments of sponge spicules in samples
898	Green clay, rounded lumps of glauconite
	MIDWAY GROUP
	CLAYTON FORMATION:
908	Green clay, glauconite, marl
	OWL CREEK FORMATION (ARKADELPHIA):
920	Gray clay, some plant remains
930	Fine-grained micaceous sandstone, some silicified sandstone, lignite and gray clay
950	Silty sandstone, some glauconite, shell fragments
	NACATOCH FORMATION (RIPLEY):
955	Sub-angular sandstone, some frosted, glauconite
964	No sample
970	Chiefly sandstone, some clay
980	Sandstone, calcareous fossils, glauconite
1000	Sandstone, calcareous fossils, glauconite
1010	Gray clay, little sandstone, glauconite
1020	Sand, angular and polished, glauconite
1030	Sandstone, fossil fragments
1051	Green clay and sand
1072	Coarse frosted and fine angular sandstone
1080	Greenish sandy clay
1090	Angular sand
1096	Angular sand, glauconite
1097	Fine angular, green, micaceous sand
1098	Quartzite
1110	Fine-grained, micaceous, glauconitic sandstone
1120	Glauconitic sandstone, gray shale
1130	Lumps of green, micaceous sandstone
1150	Green clay and sand
1170	Green clay and sand, calcareous material
1180	Sandstone, heavy glauconite concentration
1190	Green sand, heavy glauconite concentration, some mica
1214	Clay, mica, sandstone, marl
	End of cuttings at 1214.
	Dr. Arthur Herman of Memphis, Tennessee, picks Paleozoic at 1208.

CLAY COUNTY

Company: Clay County Oil Company — Well No. 1
Lease: Ross Norred
Location: SW SW SW — Sec. 11-20N-8E
Total Depth: 1285 — Elevation: 284
Began Drilling: ? — Completed: June 1944

Source of Information: Missouri Geological Survey Log No. 8698, samples studied by Grohskopf and Ostrander

Log of Well

Bottom (Feet)	Formation
	ALLUVIUM:
10	Coarse polished sand
30	Coarse polished sand, igneous fragments
40	Very coarse sandstone, igneous fragments
100	Coarse polished sand
120	Coarse polished sand, pea gravel
140	Coarse polished sand, pea gravel, white sandstone, limonite
	WILCOX GROUP
	HOLLY SPRINGS FORMATION:
150	Coarse, white, polished sandstone
170	Coarse, white, polished sandstone, gray clay, micaceous
180	Polished sand, gray clay, black inclusions
190	Medium gray shale, vari-colored sandstone
215	Polished sandstone, medium gray shale
230	Medium-grained, dense sandstone
240	Gray shale, medium-grained sandstone
250	Vari-colored sandstone
260	Coarse, white, polished sandstone
300	Polished white sandstone
330	Polished white sand, yellow iron stain
	WILCOX GROUP
	ACKERMAN FORMATION:
340	Very coarse sand, gray clay, lignite, purple clay, plant fragments
355	Gray clay, lignite
365	Coarse, polished sand, lignite gray clay
380	Gray, micaceous clay
390	Gray, micaceous clay, coarse sand
400	Coarse, sub-rounded sand, gray clay, siderite
420	Coarse, polished sandstone
450	Sideritic sandstone, gray clay
	MIDWAY GROUP
	PORTERS CREEK FORMATION:
465	Blue-gray micaceous clay, some sandstone
690	Blue-gray micaceous clay
700	Very micaceous clay, fossil stems
735	Gray micaceous clay, fossil stems
	MIDWAY GROUP
	CLAYTON FORMTION:
740	Gray, glauconitic marl
	ARKADELPHIA FORMATION:
805	Gray, glauconitic marl
	NACATOCH FORMATION (RIPLEY):
810	Coarse, white sandstone, very glauconitic

CLAY COUNTY—Continued

Bottom (Feet)	Formation
850	Coarse sandstone, lignite ? , pyrite
925	Fine-grained sandstone, glauconitic, micaceous at base
935	Mostly sandstone, trace white plastic clay, abundant fossil fragments. (Exogyra costata, Exogyra cancellata)
945	White sandstone, coarser
950	White sandstone, trace brown silty shale
975	Coarse sandstone, pyrite
1000	Coarse sandstone, trace blue silty shale, fossiliferous
1020	Gray micaceous shale, fine-grained sandstone
1030	White, fine-grained sandstone, pyrite
	SARATOGA FORMATION (?)
1040	Calcareous shale and marl, white fine-grained sandstone
1050	Mostly calcareous shale and marl
1070	Marl and white, fine-grained sandstone
1120	Calcareous shale, gray shale, and white sandstone
1130	White, glauconitic sandstone gray shale
1145	White sandstone, gray shale, limonite
1165	Very fine-grained angular micaceous sandstone
1190	Fine-grained sandstone, marl, flakes of mica
	ROUBIDOUX FORMATION (?):
1210	Brown to tan dolomite, white, dense dolomite, blue-gray translucent chert, tan sandy chert
1220	Tan dolomite, tan oolitic chert
1230	Dolomite, gray translucent sandy chert
1240	White, dense dolomite, sandy chert, sandy dolomite
1285	Brown, smooth chert in tan dolomite with sandy streaks T.D. 1285

CLAY COUNTY

Company: Texas Piggott Oil Company Well No. 1
Lease: Sallee, R. P.
Location: 210'S 175'E SWc SW¼ SW¼ Sec. 11-20N-8E
Total Depth: 1233 Elevation: 300
Began Drilling: 1926 Completed: 1926
Casing Record: 10" @ 260'; 6-5/8" @ 1200'
Source of Information: Arkansas Geological Survey Bulletin 2, by W. C. Spooner, p. 289.

Log of Well

Bottom (Feet)	Formation
	QUATERNARY
	RECENT AND PLEISTOCENE SERIES:
25	Surface sand
71	Water sand
75	Sandy clay
90	Clay
139	Clay and sand
	TERTIARY
	EOCENE SERIES
	WILCOX GROUP:
140	Rock

CLAY COUNTY—Continued

Bottom (Feet)	Formation
147	Soapstone
152	Packed sand
159	Soapstone
182	Shale
185	Sand and gumbo
200	Gumbo
208	Shale
217	Packed sand
298	Shale
308	Gumbo
310	Sand
339	Shale
355	Gumbo
367	Shale
392	White limy shale
412	Chalky lime
428	Limestone
452	Shale
491	Shale and gumbo
492	Rock
	MIDWAY GROUP:
567	Shale
570	Shale (blue-black)
611	Shale
696	Soapstone
720	Gumbo
736	Shale and gumbo
739	Lime
748	Sandy shale
860	Shale and gumbo
861	Rock
877	Sticky shale
878	Rock
880	Sticky shale
	Unconformity
	CRETACEOUS
	GULF SERIES
	ARKADELPHIA MARL, NACATOCH SAND AND OLDER:
885	Soft sandy lime
890	Rock
900	Water sand
920	Sticky shale
990	Water sand
994	Shale
1005	Water sand
1007	Hard rock
1027	Sandy shale
1029	Green sand rock
1040	Sand
1044	Sandy shale
1094	Shale and gumbo
1186	Sandy shale
1187	Rock
1189	Sandy shale
1199	Sand rock
1200	Hard flint rock
1220	Broken rock
1224	Sand and gravel, lignitic
	PALEOZOIC
1233	Rock
	T. D. 1233

CLAY COUNTY

Company: Canadian-American Oil Company Well No. 1
Lease: Elder, Dovie
Location: 300'S, 300'W of NEc NE NW Sec. 9-20N-8E
Total Depth: 1198 Elevation: 370
Began Drilling: Completed: 1938
Casing Record: 10" @ 185' w/25 sacks

Source of Information: L. A. Braden, Rector, Arkansas, 5-1-39.

Log of Well

Bottom (Feet)	Formation
	WILCOX GROUP:
5	Surface sand
17	Yellow clay
19	Cemented gravel
35	Sandy shale
90	Water sand
107	Yellow clay
132	Sandy shale
157	Water sand
165	Blue shale
175	Sand
185	Gumbo
210	Sandy shale
223	Gummy shale
229	Sand and shale
250	Gummy shale
270	Sandy shale
306	Gummy shale
315	Shale, sand (cavity)
330	Gumbo
343	Hard clay
344	Rock
351	Gummy shale
374	Shale, streaks of gumbo
381	Packed sand
462	Hard shale with streaks gumbo
463	Rock
465	Shale (cored)
473	Gummy shale with streaks lignite
474	Hard rock
485	Gummy shale
486	Rock shell
490	Sandy shale
	CLAYTON FORMATION:
507	Gumbo
512	Gumbo
544	Gummy shale
552	Gumbo
566	Sandy shale
571	Gummy shale, hard streaks
580	Gumbo
629	Gumbo and gummy shale
692	Hard shale with gummy streaks
702	Lime and shale
714	Gumbo
729	Shale with streaks of lime
735	Gummy shale with lime streaks
749	Hard shale with streaks of lime and green sand
751	Cored shale with streaks of lime and micaceous sand
766	Shale and gummy lime
771	Gumbo
799	Gummy shale
801	Lime rock
803	Cored limy shale with streaks of green shale and sand
805	Hard lime
807	Sandy shale with hard lime streaks
809	Sandy lime shell (cored) to 808½ and 809 turning to hard sandy lime
810	Sandy shale and hard lime (cored)
812	Lignite with brown and green sand streaks (cored)

CLAY COUNTY—Continued

Bottom (Feet)	Formation
813	Green sand (cored)
814	Brown and green sand (cored)
815	Green sand with lime streaks (cored)
816	Green sand with black shale (cored)
820	Sandy shale (cored)
825	Gummy shale (cored)
830	Limy shale and green sand (cored)
837	Limy shale (cored) Reamed down from 809 to 837
841	Limy shale (cored)
858	Limy shale with lime and gumbo streaks (cored)
863	Sandy shale with lime streaks (cored)
865	Hard lime (cored)
	NACATOCH FORMATION:
867	Hard lime drilled with rock bit
875	Hard lime with sandy streaks
879	Hard lime (cored) Recovered 4 inches shale
880	Sandy shale (cored)
882	Hard lime giving away to gray water sand (cored)
885	Sand shale
886	Lime rock (cored)
890	Sandy shale carrying water (cored)
	SARATOGA FORMATION:
990	Gray water sand with streaks of limy shale
993	Green shale (cored)
995	Lime rock (cored)
1001	Green sand and shale
1005	Green sandy shale (cored)
1006	Lime rock
1012	Green sand (cored)
1014	Lime rock (cored)
1018	Green sandy shale
1019	Rock
1020	Green sandy shale (cored)
1025	Gumbo
1027	Gumbo
1028	Lime rock and gummy shale (cored)
1030	Gumbo and gummy shale
1051	Gray shale
1060	Gumbo
1073	Gummy shale
1080	Gumbo
1090	Gumbo (tough) Lime rock (cored)
1100	Gummy lime
1103	Lime rock (cored hard lime)
1105	Hard lime (cored)
1112	Broken sandy lime (cored)
1114½	Cored white packed sand (lost core)
1116	Hard rock (cored)
1116'3"	Hard rock (cored)
1118'6"	Sand
1125	Water sand
1125'6"	Rock
1126	Sandy shale
1140'6"	Water sand
1141	Rock
1143	Gummy shale
1173	Sand and sandy shale
1174	Rock
1175	Hard black shale (cored)
1176	Hard black shale (cored)
1182	Black shale with very hard streaks of rock
1185	Reamed, made new hole hard streaks of rock
1194	Black sandy shale, hard black rock (cored)
1197	Sandy shale, black hard rock
1197'6"	Very hard rock (cored 4 hours and wore outside reamers of hard formation head)

CLAY COUNTY

Company: Ginther, A. L. Well No. 1
Lease: Gordon
Location: 120'N 116'W SEc SE NE Sec. 22-19N-7E
Total Depth: 1309 Elevation: 315
Began Drilling: Completed: 1939
Casing Record: Surface casing set at 242 feet
Source of Information: L. A. Braden, Rector, Arkansas 5-1-39.

Log of Well

Bottom (Feet)	Formation
14	Surface clay
36	Sand and fine gravel
80	Gray shale
102	Gray shale
154	Sandy shale
201	Shale with gummy streaks
240	Sandy shale with hard streaks
260	Gummy shale
295	Sandy shale with hard streaks
335	Shale with hard streaks
385	Gummy shale
393	Gumbo
396	Hard rock
400	Gumbo with streaks of lime
482	Gumbo
500	Lignite and sandy shale (cored)
509	Sandy shale (cored)
530	Gumbo (tough)
572	Gumbo with streaks of shale
605	Gummy shale with hard streaks
689	Gummy shale
787	Shale streaked with gumbo
885	Gummy shale (drilling hard)
892	Hard lime (cored)
894	Hard sandy shale
899	Hard lime and green sand (cored)
	Drilled up to June 12, 1938.
	Note: Resumed drilling Feb. 27, 1939
900	Sandy shale (cored)
905	Sandy shale
912	Green sand, streaked with shale
917	Green sand, streaked with shale and shells (cored)
924	Sandy shale (cored)
930	Lime and sandy shale (cored)
935	Sandy shale (cored)
947	Sandy shale streaked with lime
958	Sandy shale streaked with lime
978	Sandy lime streaked with shale (cored)
982	Hard lime (cored)
	(Core 981 sent to Rolla, Mo.)
983	Hard lime with shells (cored)
985	Hard lime (cored)
998	Water sand (core lost, rock in core barrel.) Drill stem test 987 to 998 (Sand in drill stem tester)
1020	Sandy shale with hard streaks
1045	Sandy shale
1050	Green sand streaks of shale (cored)
1125	Sandy shale hard streaks (cored)
	(Cored 1054 sandy shale)
	SARATOGA FORMATION:
1135	Sandy shale
1138	Lime rock (core 1135—Lime rock sample sent to Rolla, Mo.)
1145	Lime with streaks of shale
1146	Gumbo
	Shut down—
	Resumed drilling April 5, 1939
1180	Gumbo

CLAY COUNTY—Continued

Bottom (Feet)	Formation
1181	Lime
1203	Gumbo
1206	Lime
1209	Lime (cored)
1216	Lime streaked with gummy shale
1224	Gumbo (cored)
1267	Gumbo with gummy streaks of lime
1274	Hard lime rock (Core—wore out three soft core heads, and in 5 hours wore out hard formations Hughes cutter head) Shut down April 13, 1939 Resumed drilling April 24, 1939
1278	Hard lime rock (Roller bit used)
1281	Hard lime rock (core April 25, 1939)
1309	Softer lime rock T. D. 1309

NOTES:

Description by H. S. McQueen, Ass't State Geologist Missouri Geological Survey

394 Siltstone, hard, brown, fine grained, some mica and carbonaceous (plant) material (Core)

700 Sand, medium to coarse, angular to somewhat rounded, somewhat polished (one sample of cuttings marked 400-700).

900 Clay, dark, gray micaceous, with angular fracture, (one sample of cuttings marked 700-900).

885 Clay as in 700-900 with some sand (one sample of cutting marked 885).

Core Description

Limestone, light gray, fine grained ("chalky") earthy, very fossiliferous, some irregular masses and veins of calcite; also contains small amount of fine sand, and some rounded pellets of brownish colored glauconite, (Core marked No. 1 885 feet).

Limestone, green, very glauconitic, this green mineral imparting the color; also contains green shale, residue of 20% contains fine sand glauconite (core marked 895 feet).

SUMMARY

The siltstone (core depth 394) probably marks the top of the PORTERS CREEK FORMATION, (MIDWAY GROUP) of EOCENE AGE. Above the siltstone the sands and clays below 36 feet are the WILCOX GROUP, also of EOCENE AGE.

The clay, sand and gravel from the surface to 36 feet are probably Recent in age.

The sample of sand (400 to 700) has the characteristic of the WILCOX GROUP, but the drillers' log shows clay (Gumbo) as occupying this interval.

The sample marked 700 to 900 feet is characteristic of the PORTERS CREEK CLAY of the MIDWAY GROUP. The total depth overlaps the cores described below.

The limestone cores, (marked 885 to 895 feet) are characteristic of the basal EOCENE CLAYTON FORMATION, and the core at 895 feet suggests that the top of the underlying CRETACEOUS will be found **without much additional drilling.** Clay and Marl (ARKADELPHIA OF ARKANSAS) or (OWL CREEK OF TENNESSEE) or sand (NACATOCH OF ARKANSAS) or (RIPLEY OF TENNESSEE) will occur beneath the CLAYTON.

Missouri geological survey.
Rolla, Mo. June 29, 1948

CRAIGHEAD COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
* 4	Daniel Drilling Co.	Scott, Will	NEc SW	18-14N- 3E	2231	260	9-21	11-15-22
6	Little Huskey Oil Co.	McDaniel	Near Gilkerson	31-14N- 3E	400	270 ±	12- 1-21	2-28-23
5	McKee, et al		Near Gilkerson	22-14N- 3E	1440	375 ±	1920	1921
10	Scott Syndicate	McNorton		31-15N- 3E	2200	270 ±	10-19-21	2-28-23
9	Stuck, et al	Brodway	Near Bono	30-15N- 3E	1700	255 ±	11 1-21	2-27-24
8	Stuck & Fogel	Trinity		18-15N- 3E	1600	255 ±	1921	1921
7	Stuck & Fogel	Isom	SW NE	16-15N- 3E	1470	350 ±	1924	1924
2	Scott, J. F. & Co.	Scott	NE SE	10-14N- 3E	1934	300 ±	1924	1924
3	Scott, J. F. & Co.	Willett		10-14N- 3E	2300	300 ±	1921	1921
‡†*11	Tennark, Inc.	Martin, Ruby	580'S 80'W NEc	35-14N- 3E	5092	350 ±	3-39	2-10-40
‡†*12	Walters, C. E.	Johnson	100' from N & W/Ls	10-13N- 1E	1608	245	5- 6-48	6-17-48

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

CRAIGHEAD COUNTY

Company: C. E. Walters et al — Well No. 1
Lease: Houston Johnson
Location: 100′ Fr. N and W/L — Sec. 10-13N-1E
Total Depth: 1608 — Elevation: 245 (Topo. map)
Began Drilling: 5-6-48 — Completed: 6-17-48
Casing Record: 8 5/8″ @ 250′
Source of Information: C. A. Renfroe, Geologist, Arkansas Division of Geology.

Geological tops from scattered samples:
Nacatoch ----------770
Paleozoic (Everton) -------970

Drill stem test 790-816, open 15 minutes, recovered 560′ fresh water and drilling mud. (In Nacatoch). Drill stem test 1234-1290, recovered 75′ of drilling mud (In Paleozoic). Drill stem test 1485-1500, recovered 520′ of drilling mud.

Core record:

Cored 795-811, recovered 2½ medium-grained very porous sandstone with dead asphaltic stain. A few thin layers of calcareous fossiliferous glauconitic sandstone present in this core.

Cored 985-990, recovered 2½′ tan finely crystalline dolomite with scattered grains of frosted rounded quartz sand. (Sample of this core sent to Missouri Geological Survey at Rolla and was identified by Grohskopf as "pre-St. Peter, probably Everton").

Electric log (Halliburton) was run on May 13th, 1948.

CRAIGHEAD COUNTY

Company: Tennark, Inc. — Well No. 1
Lease: Ruby M. Martin
Location: 580′ S 80′ W of NEc — Sec. 35-14N-3E
Total Depth: 5092 — Elevation: 350
Began Drilling: 3-?-39 — Completed: 2-10-40
Casing Record:
Source of Information: Arkansas Oil and Gas Commission 5-11-40.

Log of Well

Bottom (Feet)	Formation	Bottom (Feet)	Formation
0-230	Soil, gravel and water sand	485	Gray shale
232	Shale	562	Brown shale
330	Sand	564	Rock
350	Lignite	710	Shale streaks
380	Shale	713	Rock
381	Rock	718	Boulders and shale
470	Shale	785	Shale and shells

CRAIGHEAD COUNTY—Continued

Bottom (Feet)	Formation
789	Hard rock
908	Shale and boulders
1080	Black shale
1145	Brown streaks shale
1160	Shale
1174	Gumbo
1190	Shale streaks gummy lime
1218	Black shale
1235	Black streaks shale
1236	Black sandy shale
1288	Black streaks shale
1290	Hard sandy lime
1297	Soft sand
1300	Hard sandy lime
1338	Sandy shale
1352	Broken lime sandy shale
1354	Hard lime
1365	Sandy shale
1390	Sand and shale
1438	Black sandy shale
1465	Glauconite sand
1485	Sandy shale lime boulders Hard shale sticky streaks
1528	Hard sandy shale
1529	Hard sandy shale
1532	Soft sand
1569	Sand streaks shale
1570	Hard sand cap
1581	Soft sand
1605	Soft gray sand
1620	Streaks of shale sandy shale
1635	Sandy shale streaks lime
1646	Hard sticky shale
1648	Sandy shale
1671	Sandy shale
1683	Hard lime
1687	Hard lime streaks, pyrite
1695	Hard lime
1704	Hard limestone
1710	Hard lime streaks, pyrite sandstone
1711	Sandstone, pyrite
1711.4	Hard pyrite, sandstone
1711.7	Quartzite, sandstone
1712	Sandstone, quartzite
1712.6	Quartzite, sandstone
1713.4	Quartzite
1402-1414	Drilling new hole — shale and sand
1489	Sandy shale and lime
1499	Hard lime streaks and shale
1524	Hard lime
1555	Shale
1585	Hard sharp sand
1618	Hard shale
1620	Sticky shale
1671	Sticky clay
1703	Hard lime
	(Cemented 1793′ 7 in.) O.D. pipe 100 sacks. Shut down for cement to set Drilling cement plug
1705	Hard lime
1706	Hard lime
1709	Water sand hole full
1715	Water sand hard
1717	Water sand
1719	Lime hard
1725	Hard lime
1728	Lime
1747	Hard lime
1750	Hard lime sand pure
1754	Water sand
1775	Hard dolomite
1781	Limestone
1786	Hard lime brown
1789	Hard lime
1792	Hard dolomite
1805	Hard lime dolomitic and chert
1809	Hard brown dolomite
1814	Lime
1825	Hard lime
1829	Hard lime dolomitic
1840	Hard lime
1848	Hard lime dolomitic
1860	Lime dolomitic
1864	Hard lime dolomitic
1869	Hard lime dolomitic and chert
1874	Lime dolomitic
1884	Hard lime
1890	Lime

CRAIGHEAD COUNTY—Continued

Bottom (Feet)	Formation
1895	Hard lime
1904	Lime
1909	Lime
1914	Hard lime
1919	Lime
1924	Lime slightly sandy
1934	Lime
1967	Lime slightly sandy
1971	Lime, little fine sand
1979	Lime
1982	Hard lime, litle fine sand
1996	Lime, little sand
2000	Hard lime, little sand
2009	Hard lime
2030	Hard lime, some fine sand
2040	Lime, some chert
2049	Lime slightly sandy
2053	Hard lime
2057	Lime, some chert
2062	Lime
2070	Lime, some chert
2075	Hard lime, some chert
2105	Dolomitic lime, some chert
2110	Hard lime
2114	Lime
2119	Hard lime
2127	Hard lime
2134	Lime
2147	Broken lime - chalky and slightly sandy
2151	Hard sandy lime
2157	Lime
2189	Hard lime
2202	Lime
2203	Hard lime
2209	Lime
2243	Soft brown lime
2247	Lime and brown shale
2252	Lime and brown shale
2257	Sandy lime
2271	Sandy lime and pyrite
2285	Lime and pyrite
2290	Lime (hard) and pyrite
2294	Sandy lime
2298	Hard lime
2306	Sandy lime
2310	Lime
2314	Sandy lime
2318	Sandy lime
2322	Chalky lime and pyrites
2326	Lime and pyrites
2330	Hard lime and pyrites
2334	Gray lime, pyrites, cherty
2338	Hard lime and pyrites
2342	Gray lime, cherty
2347	Gray lime and pyrites
2360	Crystalline lime and pyrites, slightly sandy
2363	Gray lime and pyrites
2371	Gray lime, slightly sandy
2375	Gray lime and shale
2380	Gray sandy lime
2385	Gray lime, sandy
2389	Gray lime
2403	Chalk, gray lime
2408	Gray lime and chalk
2413	Gray lime
2416	Gray cherty hard lime
2420	Gray hard lime
2425	Gray lime
2435	Brown lime, crystalline
2440	Brown sand and lime
2443	Brown gray lime, dense, sandy
2447	Hard sandy lime
2451	Hard lime—changed bits
2455	Gray sandy shale, pyrite — changed bits
2458	Gray lime and pyrite
2465	Hard gray lime
2475	Gray lime (hard), changed bits
2479	Hard gray lime
2487	Chalky gray lime
2494	Hard gray lime—reset rope socket
2496	Hard lime
2501	Gray lime
2505	Gray lime, some gray shale
2525	Hard gray lime

CRAIGHEAD COUNTY—Continued

Bottom (Feet)	Formation
2530	Gray lime
2533	Gray lime
2536	Gray lime
2544	Gray lime, show of asphalt
2546	Gray lime
2550	Gray dense lime, probably small asphalt show
2554	Gray lime
2563	Gray lime (cherty) some gray shale
2567	Gray lime
2581	Sandy lime, asphalt
2586	Gray lime, asphalt
2590	Gray lime
2604	Broken lime
2607	Gray lime and asphalt
2610	Gray lime and asphalt
2614	Gray lime
2642	Gray lime, some shale
2646	Gray lime
2651	Gray lime
2656	Sand and lime
2661	Sand and gray lime
2666	Gray lime and sand
2669	Sand and lime
2674	Sandy lime
2679	Gray lime
2696	Lime
2701	Gray lime, asphalt showing
2705	Hard lime
2709	Hard gray sandy lime
2714	Hard shell, soft sandy lime
2719	Sandy lime
2741	Gray lime and shale
2747	3 feet hard shale
	3 feet shale and lime
2753	3 feet soft lime
	3 feet hard lime
2759	Gray lime and dark shale
2764	Gray cherty lime
2769	Gray sandy lime
2774	Gray lime
2779	Lime shells and soft gray shale
2784	Sandy lime
2795	Gray lime, some shale
2800	Lime shells, and shale (gray)
2805	Gray lime and shale
2810	Gray cherty lime
2814	Lime shells and shale
2819	Lime and chert
2824	Gray lime
2834	Lime and shale
2844	Gray lime
2849	Gray lime and shale
2854	Gray lime
2865	Gray lime and shale
2871	Broken lime and shale
2876	Gray sandy lime
2890	Chalky lime
2895	Gray lime
2906	Gray lime and shale-black
2913	Dark lime and shale
2919	Gray lime and shale
2930	Shale and lime
2934	Hard lime
2937	Gray dense lime
2941	Hard lime
2945	Blue gray lime
2950	Gray lime
2955	Gray lime-light shale
2960	Dark lime
2964	Dark lime and shale
2972	Gray lime
2977	Gray lime and shale
2981	Gray lime and shale
2985	Gray lime
2990	Bluish gray shale - lime shells
2994	Hard gray and gray lime
2998	Gray lime
3003	Lime and sandy shale
3012	Lime and shale
3015	Dense lime
3019	Hard lime
3024	Gray lime
3030	Gray lime and little gray shale
3035	Gray lime and shale

CRAIGHEAD COUNTY—Continued

Bottom (Feet)	Formation
3042	Soft brown lime streaks white clay
3048	Gray lime and some shale
3054	Dark gray lime and shale
3058	Broken lime and shale
3060	Lime shells
3067	Lime and dark shale
3074	Gray lime and white shale
3078	Gray and brown lime
3080	Gray dense lime
3083	Sandy gray lime
3086	Gray lime
3098	Brown silt blue shale lime shells
3103	Hard gray lime
3108	Gray lime
3112	Dense gray lime
3120	Gray lime
3124	Gray lime and shells
3127	Lime shells and shale
3130	Shale and lime shells
3137	Soft gray lime
3142	Broken lime and shale
3155	Gray lime
3169	Hard gray lime
3173	Blue shale and lime shells
3175	Blue shale and lime shells
3180	Dark gray lime-some white clay
3185	Gray lime and little shale
3191	Gray lime and blue shale
3196	Gray sandy lime and shale
3201	Gray lime
3206	Dark gray lime
3212	Gray sticky clay, dark brownish shale
3218	Gray lime
3224	Gray lime and shale
3228	Gray lime
3230	Shale
3236	Gray lime and shale
3240	Dark blue shale and streaks of lime
3246	Dark shale, lime and some sand
3251	Gray lime
3257	Lime streaks and shale
3263	Gray lime and shale
3275	Hard lime
3281	Hard gray lime, some shale
3286	Gray shale and lime
3290	Hard lime, little sandy
3296	Hard lime
3307	Dense gray lime and shale
3314	Gray lime
3323	Gray lime, sand and shale
3328	Hard gray lime
3332	Gray lime
3336	Shale and light gray lime
3340	Dense gray lime
3345	Gray lime
3347	Dense lime
3350	Blue shale
3358	Lime and dark shale
3363	Lime and some shale
3370	Lime and shale
3375	Hard gray lime
3380	Hard lime
3386	Dense lime and shale
3392	Hard gray lime, some shale
3398	Gray lime
3408	Dense lime
3419	Blue shale and lime
3424	Sandy lime
3429	Sandy lime and shale
3436	Shale and lime shells
3441	Shale and lime—hard
3447	Gray lime and shale
3453	Blue shale and lime—chalky
3462	Hard sandy lime
3467	Green and gray shale and gray lime
3473	Shale and lime
3479	Lime and shale
3492	Lime and sandy shale
3498	Gray lime and shale
3505	Flaky gray lime-lime shells and shale
3511	Gray lime and shale
3522	Hard gray lime
3535	Dark and gray lime
3537	Gray lime dense

CRAIGHEAD COUNTY—Continued

Bottom (Feet)	Formation
3542	Hard lime
3552	Hard gray lime
3558	Hard gray lime and brown flaky lime
3564	Gray lime and shale
3570	Sand and clay
3576	Gray lime and shale
3588	Gray lime and shale, with lime shells
3600	Gray lime and shale
3605	Gray lime, brown shale and gray shale
3609	Brown and gray shale and hard gray lime
3614	Gray lime
3618	Hard gray lime and some sand
3620	Hard gray lime
3625	Gray lime
3635	Gray chalky lime
3640	Gray lime and chalk
3645	Gray, and crystalline lime-some chalky lime
3650	Light gray lime
3655	Gray lime
3662	Cherty lime
3669	Gray and dark lime, streaks of shale
3674	Shale and lime
3680	Shale and lime shells
3685	Shale and gray lime — little sandy
3690	Gray lime and shale
3695	Gray lime and shale
3701	Gray lime and shale
3705	Shale and sandy lime
3708	Hard gray lime
3712	Hard sandy lime
3716	Gray and chalky lime
3721	Gray shale with lime streaks
3727	Gray shale and lime
3745	Gray lime and shale
3749	Hard lime
3753	Hard gray lime
3758	Flaky gray lime, some shale
3761	Flaky gray lime
3766	Hard gray lime
3771	Gray lime
3774	Hard gray lime
3780	Gray lime
3785	Gray lime, crystalline
3790	Flaky gray lime-trace of pyrites
3795	Gray lime
3802	Gray lime with shale
3808	Broken lime, gray
3811	Broken lime
3816	Gray lime and shale
3821	Gray lime-from 19 to 21 dense
3827	Gray lime and shale
3833	Gray flaky lime and shale
3838	Gray lime, some black chert
3850	Gray lime and shale
3855	Cherty gray and white lime-some gray chalky lime
3860	Gray lime
3865	Gray lime shells with white shale
3870	Gray lime and shale
3875	Lime and shale
3879	Hard gray lime
3884	Gray lime
3893	Gray lime and shale
3898	Chalky lime, gray to dark gray-dense lime
3903	Gray lime
3908	Gray lime white and dark shale
3913	Gray lime
3929	Gray cherty lime
3935	Gray lime
3938	Hard gray lime
3943	Gray lime
3946	Dark gray and black lime-dense
3948	Gray lime
3952	Gray lime
3958	Gray lime black chert and calcite chalky lime
3963	Dark gray lime
3968	Hard gray lime

CRAIGHEAD COUNTY—Continued

Bottom (Feet)	Formation
3973	Traces of sand gray and slightly sandy lime
3977	Hard gray lime
3984	Light gray lime bluish gray lime traces of sand-last two feet of this run soft
3986	Hard chert gray lime trace of sand
3988	Hard gray lime
3992	Gray crystalline lime black chert, soft chalky lime
3996	Hard gray lime
4001	Gray lime and some dark brown shale
4005	Chalky lime, white lime, some white chert-3 to 5 feet dense brown lime
4009	Gray lime, some sand
4013	Gray lime
4018	White to blue gray lime, little sandy
4021	Hard gray lime
4026	White lime black chert and lime
4030	Gray lime
4034	Dark gray lime
4038	Gray lime-chalky lime
4042	Hard gray lime
4046	Shale and gray lime
4053	Gray shale, crystalline lime-some black chert
4057	Hard gray lime
4062	Gray lime
4067	White and blue gray lime-slightly sandy
4068	Gray lime
4071	Gray lime sandy
4076	White and gray slightly sandy, some chalky lime—probably some pyrites
4082	Gray and dark lime—some soft white chalk-slightly porous-some black and red flakes probably asphalt
4087	Gray lime chalk traces of pyrites
4092	Principally gray flakey lime some white lime 1' very hard-also light gray shale
4097	Gray lime trace of sand
4101	Gray lime and some white shale
4106	Light dark lime, some gray shale
4112	Dark and light lime-some pyrites
4117	Gray lime and some fine sand
4120	White and gray lime sandy, dense
4124	Gray lime and some sand
4129	Gray lime
4135	Light and gray lime—sandy
4141	Light gray lime—some shale and black chert
4145	Gray lime-light, some sand
4148	Light to gray lime
4149	Dense light
4151	Soft lime—some shale
4156	Gray lime—some dark lime
4161	Gray lime and some shale
4165	White soft lime gray to dark dense lime
4170	Gray lime some shale
4179	Dark gray and light gray flaky lime and soft shale
4182	Dark gray and light gray flaky lime-some pyrites hard
4186	Gray lime and some shale
4190	Gray lime—hard
4196	Dark gray and light gray lime
4201	Dark gray lime and white shale
4206	Light to dark lime and some chert
4211	Dark gray lime-some light gray
4216	Gray lime and shale
4221	Dark gray lime and brown flaky lime

CRAIGHEAD COUNTY—Continued

Bottom (Feet)	Formation
4225	Bluish to gray lime some shale and chert
4230	Dark gray lime-light gray lime and some shale
4235	Light and dark gray lime
4241	Flaky light soft lime with hard streaks
4245	Light flaky lime with 1 ft. hard dark lime
4250	Hard gray lime
4255	Light to gray lime
4260	Gray lime and some white shale
4266	Dark gray lime-some white shale
4271	Light to gray lime
4275	Hard dark lime—some light
4280	Gray lime and soft white lime
4284	Gray to dark lime—dense
4289	Gray and dark lime—and some gray shale
4294	Gray lime
4299	Gray to dark lime-some soft chalkish lime
4305	Gray and dark lime—little sandy
4309	Hard dense lime — slightly sandy
4312	Lime—light to gray sandy
4317	Light to dark gray lime
4321	Gray lime
4325	Light to gray lime—slightly sandy, some chalky lime
4329	Gray lime
4339	Light to gray to dark lime
4344	Light and gray lime
4348	Dark gray lime
4353	Gray lime
4363	Dark gray and light flaky lime
4368	Light to dark gray lime-some clear substance
4372	Light and dark gray lime
4376	Gray lime some white shale
4380	Gray lime-dark-75 to 78 fairly soft 78 to 80 dense
4386	Dark and light gray lime-some white chalk-fairly soft
4391	Gray lime dark and white shale
4394	Gray lime
4399	Light gray lime—some crystalline substance
4403	Light gray lime
4421	Dark gray lime
4424	Dark gray lime
4428	Gray lime flaky, some shale
4442	Gray lime and flaky depth checked and corrected to 4466
4470	Gray lime
4496	Gray to dark gray lime-92 to 94 hard-94 to 96 soft
4500	Dark gray lime—hard
4503	Hard sandy lime
4505	Hard gray lime — soft fine round sand
4510	Gray lime-calcite and rounded sand
4512	Gray lime, some sand
4514	Gray lime
4518	Gray lime, some sand
4522	Gray lime, rounded sand
4530	Gray lime
4533	Light gray lime—apparently a porous sandy lime-hard
4538	Dark and light lime some chalky, some brown chert
4542	Gray lime and brown chert
4546	Gray to dark lime—some chert
4553	Hard gray lime—dense
4557	Light to gray lime
4562	Dark and light lime
4566	Dark gray lime—flaky
4570	Light to dark cherty lime
4573	Dark gray lime-some flakes
4577	Gray lime
4581	Gray to dark lime
4583	Light and dark lime
4587	Gray lime
4616	Gray limestone-some white shale

CRAIGHEAD COUNTY—Continued

Bottom (Feet)	Formation
4630	Broken gray lime
4633	Gray lime
4639	Gray lime—hard
4645	Gray lime—dense
4649	Gray lime—white
4651	Hard gray lime
4658	Gray lime flaky
4662	Gray chalky lime or shale—gray lime
4665	Gray lime—shale, soft
4669	Gray lime some white shale
4673	Gray lime and gray shale
4676	Gray lime
4679	Gray lime, some shale
4683	Gray lime and white shale
4690	Gray lime and shale
4693	Gray lime light shale
4699	Gray lime
4726	Gray lime and white shale
4734	Gray lime and shale
4737	Flaky gray lime
4743	Gray lime
4763	Gray lime—flaky and some shale
4767	Gray lime
4775	Gray flaky lime and white shale
4778	Gray lime and some shale
4783	Gray lime
4790	Gray lime, some shale
4794	Gray lime, some white shale
4798	Gray flaky lime, some shale
4800	Hard gray lime
4806	Gray lime
4810	Gray lime—some shale
4814	Gray lime
4819	Gray lime, some white shale
4823	Gray lime
4831	Gray lime—some chert
4834	Gray lime
4838	Gray and dark gray lime — flaky, some dark shale
4840	Gray lime
4844	Gray lime flaky, some shale
4848	Gray lime, some shale
4851	Gray and brown lime
4854	Brown lime
4858	Gray and dark flaky lime and brown shale
4861	Gray flaky lime and white shale
4865	Gray lime and some shale
4868	Gray lime
4876	Gray lime and shale—soft
4880	Gray lime, some shale
4884	Gray lime white shale
4894	Gray lime
4911	Gray lime—flaky
4917	Gray lime
4928	Gray lime—flaky
4932	Gray and dark sandy lime
4934	Gray sandy lime
4936	Gray lime and chert
4940	Chert and lime
4945	Gray lime
4952	Gray lime—flaky-white shale
4955	Gray lime
4967	Gray lime—some fine sand
4971	Gray lime
4988	Gray lime—hard
4990	Hard gray lime
4496	Gray lime
5007	Gray lime and sand
5009	Sandy lime
5015	Gray lime
5024	Lime and sand
5029	Gray lime
5036	Gray and brown lime
5040	Gray lime
5042	Gray lime—hard
5046	Gray lime
5047	Hard lime
5052	Gray sandy lime
5055	Gray lime
5070	Dark gray lime
5073	Gray lime—flaky
5076	Gray lime
5081	Hard gray lime
5084	Gray lime
5092	Gray lime—Total Depth

CRAIGHEAD COUNTY—Continued

Tops from Missouri Geological Survey Log No. 5329. Samples studied by Hundhausen, Grohskopf and McQueen.

	From	To
Wilcox	450	670
Midway (Porter's Creek)	670	1185
Midway (Clayton)	1185	1210
Arkadelphia (Owl Creek)	1210	1260
Nacatoch (McNairy)	1260	1570
Saratoga (Coon Creek)	1570	1650
Basal Conglomerate (Reworked Chert)	1650	1675
Joachim ? (Dolomitic Limestone)	1675	

Sample log of Missouri Survey goes only 1730'. This well was drilled on Crowley's Ridge southwest of Jonesboro, Arkansas.

CRITTENDEN COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†* 2	Crittenden County Oil & Gas Co.	Stanley, R. S.	SWc SW	33- 8N- 7E	2844	221	8-22	4-23
* 10	Manning & Martin, et al	Cartwright	1720'N 1550'E SWc	16- 7N- 8E	3510	225 ±	12- 2-37	12-19-37
* 1	Memphis Gas & Oil Co.	Hen & Chicken Island		23- 7N- 9E	1794	221	1924	?
* 3	Painter, J. Jr.	Hixon	50'W 120'N SEc NE SW	24- 9N- 7E	2055	221 ±	7-21-26	10-15-26
†* 4	Painter, J. Jr.	Hunter	600'S 150'E NWc NE SE	24- 9N- 7E	3614	225	7-14-25	6-28-26
* 5	Painter, J. Jr.	Painter	250'S 250'E NWc NE SW	25- 9N- 7E	1606	225	3-15-24	3-31-24
* 6	Painter, J. Jr.	Painter No. 2	250'S 250'E NWc NE SW	25- 9N- 7E	2710	225	4- 6-24	6-17-24
†* 7	Painter, J. Jr.	Patterson, P. M.	41' from No. 1 Painter					
			250'S 250'E NWc NW NW	35- 9N- 7E	3516	225	6- 7-24	4- 7-25
†‡*11	Ramsey Petroleum Co.	Martha Sanderson	250' from N & E lines	15- 6N- 7E	3503	207	12-16-48	12-26-48
9	Stanley Oil Co.	Danner Heirs	100'S 250'E of Cen	18- 8N- 9E	3351	220 ±		1937

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

CRITTENDEN COUNTY

Company: J. Painter, Jr. Well No. 1
Lease: Hunter
Location: 600'S 150'E NWc NE SE Sec. 24-9N-7E
Total Depth: 3614 Elevation: 225
Began Drilling: 7-14-25 Completed: 6-28-26
Casing Record: 10" @ 1689, 8" @ 1933, 6" @ 2527, 15" @ 387
Source of Information: Arkansas Geological Survey Bulletin 2, by W. C. Spooner, p. 311

Log of Well

Bottom (Feet)	Formation
	QUATERNARY
	PLEISTOCENE AND RECENT SERIES:
10	Surface clay
38	Sand and gravel
41	Lignite
170	Sand and gravel
171	Rock
	Unconformity
	TERTIARY
	EOCENE SERIES
	JACKSON, CLAIBORNE, AND WILCOX GROUPS:
240	Gray gumbo
370	Sand and gravel
407	Sandy shale
442	Sand and gravel
495	Sand with hard streaks
535	Gumbo
920	Sand
935	Brown shale
950	Hard sand
980	Gumbo
1030	Sand (water)
1045	Gumbo
1049	Rock with pyrites
1060	Brown shale
1135	Sand and sand rock
1172	Gumbo
1177	Sand rock
1272	Gumbo
1283	Sand (fresh water)
1340	Shale
1595	Sand
1600	Gumbo
1625	Sand
1648	Sand and shale
1675	Hard sand
1695	Gumbo
1720	Sandy shale
1726	Gumbo
1777	Sandy shale
1789	Water sand
1821	Lignitic shale
1865	Soft sand and shale
1871	Sand
1887	Fine sand and shale
2000	Sandy shale
	MIDWAY GROUP:
2010	Gumbo
2030	Layers of sandy lime and shale
2275	Gummy shale
2300	Broken lime and shale
2350	Gummy shale
2450	Chalky shale
2500	Gummy shale
	Unconformity
	ARKADELPHIA MARL:
2540	Chalky shale
2560	Black shale
2578	Black sandy lime
	NACATOCH SAND AND SARATOGA CHALK:
2610	Gray water sand
2645	Shale
2660	Sandy lime
2730	Shale
2760	Lime and shale
2920	Sand (water)
2960	Hard sandy shale
3020	Chalky shale

CRITTENDEN COUNTY—Continued

Bottom (Feet)	Formation
3065	Chalk rock
	MARLBROOK MARL AND OLDER:
3085	Sandy lime
3130	Chalk
3220	Chalky shale
3245	Shale and shells
3265	Sand
3285	Chalky shale
3335	Shale and broken lime
	Unconformity
	PALEOZOIC:
3585	Hard lime
3614	T. D.

CRITTENDEN COUNTY

Company: J. Painter, Jr. Well No. 1
Lease: Page M. Patterson
Location: 250′ S 250′ E NW cor NW¼ NW¼ Sec. 35-9N-7E
Total Depth: 3516 Elevation: 225
Began Drilling: 6-7-24 Completed: 4-7-25
Casing Record: 10″ @ 1772; 6⅝″ @ 2995
Source of Information: Arkansas Division of Geology

Driller's Log of Well

Bottom (Feet)	Formation
0	Surface (black) clay
5	Sand and gravel
40	Sand and lignite
72	White coarse sand and gravel
112	Sandy gravel
130	Hard sand
144	Gumbo
156	Hard sand
170	Big gravel
172	Hard sand
195	Gumbo
200	Hard sand
205	Gumbo
230	Hard sand
308	Coarse gravel
342	Hard sand
374	Sand and gravel
400	Hard sand
415	Gumbo
420	Hard sand
450	Gumbo
478	Hard sand rock
483	Gumbo
500	Hard sand
520	Gumbo
530	Sand
570	Hard broken sand
730	Hard sand rock
740	Broken sand
748	Hard sand
764	Soft sand
776	Hard sand
788	Sand, asphalt
808	Hard sand
825	Soft sand
836	Broken sand
875	Hard sand
894	Sand
912	Soft sand
920	Brown gumbo
942	Broken sand
959	Pack sand
969	Sand
989	Hard sand
1001	Hard sand
1010	Broken sand
1090	Tough gumbo
1100	Hard sand

CRITTENDEN COUNTY—Continued

Bottom (Feet)	Formation
1120	Gumbo
1130	Hard sand
1152	Gumbo
1163	Sand, very sharp
1190	Gumbo
1208	Sand
1230	Gumbo
1240	Sand
1243	Broken gumbo
1286	Hard broken sand
1498	Soft sand
1504	Sand mixed, asphalt
1531	Lime
1534	Hard lime
1548	Soft sandy lime
1567	Hard sand
1570	Soft sand
1583	Hard sand
1593	Broken sand
1636	Soft sand
1718	Gumbo
1742	White sand fine water well
1770	Shale gummy
1772	Gumbo
1783	Sand and shale
1972	Hard rock
1974	Sandy shale
2012	Lime rock
2015	Sticky shale
2154	Broken shale and lime
2193	Shale
2209	Broken shale and lime
2270	Broken lime and gumbo
2291	Tough gumbo
2311	Sand
2336	Sand and gumbo
2356	Lignite
2380	Sand and shale
2518	Lime and some sand
2524	Sand and shale
2542	Hard broken lime
2551	Mixed black lime
2552	White lime
2554	Hard brown lime
2555	Hard lime and sand
2560	Hard sand rock
2563	Hard sand and shale, show of water
2570	Shale
2594	Hard shale
2602	Sandy shale
2623	Rock
2624	Tough gumbo
2650	Shale and gumbo
2680	Shale and strips of rock
2710	Rock
2712	Sandy shale
2731	Sand and rock
2738	Shale, gumbo and rock
2752	Hard rock and sand
2762	Soft sand
2770	Hard sand
2772	Green sticky sand
2807	Soft sand
2814	Hard sand pyrites
2815	Hard sand rock
2818	Soft sand and shale
2824	Hard sand
2825	Soft sand
2831	Hard sand
2846	Gumbo
2850	Sand
2857	Hard sand
2858	Soft sand
2865	Soft sand
2868	Hard sand
2870	Broken sand
2916	Gumbo
2943	Broken sand, shale and gravel
2995	Gumbo
3004	White shale
3016	Chalk and sand mixed w/fossil
3029	Sand
3031	Shale and lime
3052	Shale and lime and chalk
3076	Chalk
3086	Shale and chalk
3130	Shale and chalk
3164	Hard shale and pyrites
3219	Shale

CRITTENDEN COUNTY—Continued

Bottom (Feet)	Formation
3236	Hard shale and pyrites
3262	Sand gravel and pyrites
3276	Hard lime
3290	Shale and lime
3316	Hard lime
3320	Rock
3322	Broken rock
3333	Sand
3351	Mixed shale and chalk
3376	Hard chalk
3415	Hard lime mixed with sand
3419	Hard chalk and lime
3453	Chalk and shale
3490	Hard chalk
3495	Hard chalk
3516	Hard lime-twisted off
	Hole abandoned at 3516 ft.

NOTE: Paleozoic at 3276'. Information from George C. Branner.

Tops from Missouri Geological Survey log which were taken from U.S.-G.S. Water Suppy Paper No. 656, page 27:

	From	To
Jackson		500
Claiborne	500	1290
Wilcox	1290	1975
Midway	1975	2485
Arkadelphia	2485	2560
Nacatoch and Saratoga	2560	3015
Marlbrook	3015	3260
Rubble zone	3260	3278
Paleozoic	3278	3516 T.D.

There was a good water sand at 1750 in the Wilcox Group.

CRITTENDEN COUNTY

Company: Crittenden County Oil and Gas Company Well No. 1
Lease: Dr. R. S. Stanley
Location: SW cor SW¼ Sec. 33-8N-7E
Total Depth: 2844 Elevation: 221
Began Drilling: 8-?-22 Completed: 4-?-23
Casing Record: 10″ @ 400′; 8″ @ 1635′; 6″ @ 2800′; 4½″ @ 2810′.
Source of Information: Arkansas Division of Geology.

Drillers Log of Well

Bottom (Feet)	Formation
8	Surface clay
150	Sand and gravel
175	Gumbo
278	Sand and gravel
281	Lignite
325	Gumbo
446	Shale
620	Sand
640	Shale and gumbo
850	Sand

CRITTENDEN COUNTY—Continued

Bottom (Feet)	Formation
900	Packed sand
1255	Sand
1522	Gumbo and shale
1524	Rock
1575	Tough gumbo
1600	Shale and gumbo
1610	Packed sand
1629	Shale
1631	Gas rock
1700	Water sand
1760	Shale and gumbo
1780	Sand
1880	Sandy shale and gumbo
1895	Sand
1920	Shale
1930	Sand
2000	Shale
2130	Sand
2517	Arkadelphia clay, black shale, gumbo and boulders
2617	Shale and boulders
2665	Gumbo
2668	Lime rock
2680	Shale and shells
2682	Rock
2700	Shale and shells
2720	Sand
2750	Gumbo
2760	Shale
2790	Gumbo
2833	Gumbo and shale
2844	Hard oil sand T. D. 2844

NOTE: Bailed well but could never lower water. Cement crumbly. Evidently seat was not good.

CRITTENDEN COUNTY

Company: Ramsey Petroleum Company — Well No. 1
Lease: Sanderson
Location: NE¼ NE¼ NE¼ — Sec. 15-6N-7E
Total Depth: Driller 3503, Electric log 3504
Elevation: 207' Gr. (212' Top of Rotary from which all measurements made)

Began Drilling: December 16, 1948 — Finished Drilling: December 26, 1948
Casing Record: 246 feet 10¾ inch with 100 sacks
Source of Information: Mr. Joseph M. Clark, Consulting Geologist, Tulsa, Oklahoma.

Log of Well

Bottom Feet	Formation
1165	Circulated 30 minutes, recovered no sand
1260	Circulated 20 minutes, recovered loose sand
2250-2330	Midway dark gray shale
2330-2333	Sand, drilled soft. Cored 2333-2338, recovered 4 feet of dark gray shale (SLM 2338-2320, making sand streak 2312-2315)
2320-2500	Dark gray Midway shale
2500-2575	Shale with increasing lime content
2575-2601	Dense white lime. Cored 2603-2616, recovered 18 inches of hard white sand, containing Brachiopods and some spots of soft sand

CRITTENDEN COUNTY—Continued

Bottom (Feet)	Formation
2601-2720	Cuttings came up as clusters, medium-grained, with phosphatic nodules and some glauconite, sand grains subrounded
2725	Sand clusters, fairly soft to limy and much loose sand
2737	Circulated 15 minutes, mainly limy sand and sandy lime, some loose sand grains and trace of lime
	Circulated 30 minutes, fairly hard and tight clusters of sand, some loose grains
	Circulated 45 minutes, mainly loose fine to medium grains and a few coarse grains, also a few clusters. Sand grains rounded to subrounded
2785	Sand, loose to limy and shaly
2805	Sand, limy and shaly sand and shale
2815	Sand and pyritic sand, limy sand
2835	Sand, limy and phosphatic sand, fine to coarse
2950	Sand, phosphatic nodules, traces of glauconite and mica, limy shale
2960	Sand with trace of pyrite
2970	Sand, trace of glauconitic sand lime with vugs
3040	Sand, some loose, some in clusters, some shale and lime
3100	Sand, loose and in clusters, limy shale, traces of lime, siderite
3140	Conglomeratic sand, large grains, lime, limy sand, and gray shale
3160	Silty gray to light brown shale, sand, sandy lime, some conglomerate, silty sand, some fine glauconitic sand
3190	Fine limy and glauconitic sand, and gray shale, trace of lime
3210	Fine glauconite and phosphatic limy sand, clusters fairly soft, some gray shale and lime
3220	Fine sand in clusters, fine to coarse loose sand, gray shale and some lime
3245	Glauconitic sand, gray shale, much pyrite
3400	Gray shales with various sands, silty sands, coarse conglomeratic sand, pyrite, siderite
3407	Circulated 15 minutes; gray shale, pyrite, siderite, glauconitic sand, and coarse loose sand grains
	Circulated 30 minutes, much pyrite, pyritic sandy buff lime, hard gritty buff lime, large quartz grains
	Circulated 45 minutes, the same as above
	Circulated 1 hour, the same as above, and some very white crystalline sandy lime
3450	Gray shale, clusters of pyrite, some white lime and white limy sand. Some carbonaceous (?) residue on pyrite
3460	Increase of pyrite, siderite sand conglomerate with glauconite, hard dense white lime with some included sand grains and fossils, some clusters gray glauconitic sand
3480	Gray shale, much pyrite, pyritic sand, trace glauconitic sand, a few fragments hard dense fossiliferous chert
3490	Pyrite, pyritic sand, white chert, trace gray quartzite,

CRITTENDEN COUNTY—Continued

Bottom (Feet)	Formation
	gray to dark gray chert. Some black carbonaceous (?) residue on the pyrite
3503	TOTAL DEPTH Circulated and recovered dove gray dense lime which looks like the Plattin Limestone of Ordovician age. A small amount of very small pyrite crystals in some of the lime fragments.

Note: Formations by electric log

Base Claiborne Group - Top Wilcox Group	1150
"1400 Foot Fresh Water Sand," Wilcox	1418-1650
Base Wilcox Group, Top Midway Shales	2075
Arkadelphia Marl	2550
Nacatoch Sand	2603
Ozan Unconformity Sand and Conglomerate	3394
Plattin (?) Limestone - Ordovician	3500

CROSS COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†* 3	Manning & Martin	Park & Gieseck	355'S 405'E NWc NE NE	4- 6N- 5E	4451	205	8-?-37	11-?-37
†‡* 4	Ramsey Petroleum Co.	Poinsett Lumber Co.	C SE NE NW	35- 9N- 4E	3508	205	10-30-48	11-21-48
1	Scott, J. F.	Block, R.	Lot 7	8- 7N- 4E	3000	258	1923	1923
* 2	Scott, J. F.	O'Day		9- 7N- 4E	1822	200 ±		?

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

CROSS COUNTY

Company: Manning & Martin, Inc. Well No. 1
Lease: Park-Gieseck
Location: 355'S 405'E of NWc NE¼ NE¼ Sec. 4-6N-5E
Total Depth: 4451 Elevation: 205
Began Drilling: August, 1937 Completed: November, 1937
Casing Record: 10" @ 686'
Source of Information: Arkansas Division of Geology.

Driller's Log of Well

Bottom (Feet)	Formation	Bottom (Feet)	Formation
235	Surface sand and gravel	2800	Silty sand
290	Shale	2980	Shale, some calcareous
360	Sand	3030	Chalk
540	Shale and sandy shale	3240	Calcareous shale
680	Sand	3245	Chert
900	Shale	3255	Shale
1320	Shale and sandy shale	3265	Sand
1345	Sand	3280	Shale
1380	Shale	3297	Chert
1530	Sand	3490	Lime
2440	Shale	3525	Sandy lime
2475	Marl	3850	Dark lime
2481	Lime	4451	Slightly sandy dark lime
2625	Sand		T. D. 4451
2715	Shale		

NOTE: Letter from Skelly Oil Company on May 20, 1938 states: Samples borrowed from Pure Oil Company from 3200' to 4451', TD. Top Ordovician and base Cretaceous at 3295'.
Tops listed below were picked by C. A. Renfroe from the electric log on file at the Division of Geology:

	From	To
Arkadelphia	2400	2475
Nacatoch	2475	2715
Saratoga chalk	2715	2980
Marlbrook-Annona	2980	3185
Ozan	3185	3275
Paleozoic (Ordovician?)	3275	4451 T. D.

CROSS COUNTY

Company: Ramsey Petroleum Company — Well No. 1
Lease: Poinsett Lumber Company
Location: SW¼ NE¼ NW¼ — Sec. 35-9N-4E
Total Depth: 3508 — Elevation: 205′ Gr. (210′ Kelly Bushing)
Began Drilling: 10-30-48 — Completed: 11-21-48
Casing Record: 10″ @ 166′
Source of Information: Mr. Joseph M. Clark, Consulting Geologist, Tulsa, Oklahoma.

Log of Well

Bottom (Feet)	Formation
	Samples saved from about 300 feet but not closely examined on well until 980 feet.
1060	Soft fine sandy gray shale
1070	Sub-angular to rounded, medium to coarse, clear sand
1080	Light gray sandy shale
1090	Sandy shale and soft blue green shale
1240	Clay, sand, bluish green shale, glauconitic siltstone, sandy shale and lignite with glauconitic sand in samples 1200-1230
1250	Fine to coarse transparent sand, trace of pyrite
1300	Skip
1310	Gray sandy shale and sand, trace of pyrite
1320	Sand, trace of ironstone
1340	Greenish gray shale and silty shale, black flecks of mica
1350	Sand, trace of chert and shale
1360	Sand and shale
1430	Sand, mainly fine glassy, white mica, some lignite and pyrite. At 1410 a trace of asphalt-like stain which did not fluoresce under ultraviolet
1470	Blue gray siltstone, sandy shale, some carbonaceous material; siderite at 1440
1540	Shale, silty shale, blue silty shale, sand, glauconite, limonite
1590	Mainly light gray sandy shale, some siltstone
1600	Light gray sandy shale, traces of glauconite carbonaceous material and siderite
1690	Light gray sandy and silty shale; trace of hard white bentonite (?) at 1690
1720	Shale, silty shale and sand
1730	Light gray silty shale; some light gray micaceous shale
1840	Light to medium gray shale
2100	Medium gray lumpy and gummy shale with some greenish-gray silty shale 2090-2100
2105	Circulated 30 minutes; gray shale and greenish gray silty shale; some flaky shale
2120	Greenish gray silty shale interbedded with blue-black shale
2150	Blue-black shale Bit had to be pulled as it would not cut. It was balled up with blue-black gumbo. Some calcareous gray clay also noted on bit indicating Clayton or Lower Midway
2170	Medium gray calcareous clay
2180	Medium gray calcareous clay with siderite
2190	Medium gray calcareous clay
2200	Medium gray calcareous clay with siderite
2217	Gray calcareous clay

CROSS COUNTY—Continued

Bottom (Feet)	Formation
2220	Hard gray calcareous sandstone
2225	Gray medium-grained sand no odor, color or taste
2230	Cored, recovered several pieces of fine to medium-grained angular calcareous sand; no odor or taste
2250	Sand as above
2260	Sand as above with a few hard sand layers and smooth white clay
2280	Fine sand and silt
2300	Fine sand and silt, gray clay
2335	Shaly sand, siltstone, limy sand, pyrite sand with phosphatic nodules
2360	Siltstone, some sand, hard black shale, bentonite, siderite
2390	Limy and shaly sand, hard black shale, limy siltstone, bentonite (?)
2400	Shaly sand and shale, siderite
2410	Shaly sand, shale, chert, pyrite, siderite
2460	Shaly sand, sand, hard black shale, pyrite, siderite with shales in general becoming lighter in color
2480	Shaly sand and very black shale
2490	Hard limy sand
2510	Siltstone, loose fine sand grains, some carbonaceous material, small amount of glauconite
2540	Gray sandy shale and trace of hard sand
2550	Gray sandy shale, limy shale and pyrite cemented sand
2560	Tight shaly and limy sand
2580	Soft, fine limy sand
2590	Hard limy sand and pyritic sand
2610	Sand, limy sand, shale and gray siltstone
2620	Hard sand, sandy shale, pyrite
2640	Gray sandy shale and shaly sand, siltstone
2660	Sandy shale and hard bentonite (?)
2670	Sandy shale, hard sand, pyrite, splintery black shale
2700	Limy sand, silty shale pyrite, siderite, splintery black shale
2760	Shales, silty shale, some sand pyrite, bentonite (?); chert at 2740
2765	Silty shale, marcasite, pyrite, black shale
2780	Silty shales, limy and shaly sand, siderite, pyrite
2800	Silty shale, hard limy sand, pyritic sand, bentonite (?)
2810	Silty shale, fine to medium limy sand, siderite, pyrite, some sand with phosphatic nodules
2815	Hard limy sand, some with green shale and phosphatic nodules; much pyrite and pyritized fossils; shell fragments
2820	Much loose sand, some clusters, pyrite, silty shale, light blue green shale, gray and black shale
2840	Mixture of sand, shale pyrite, bentonite, siderite, pyritized sand glauconite, some very rare asphaltic (?) material. A few large frosted grains
2878	About the same as above and buff chert
2883	Blocky dark gray to black shale and dense dark gray lime which breaks into platy fragments with conchoidal fracture
3075	Various shades of gray lime, mainly dove gray; all dense

CROSS COUNTY—Continued

Bottom (Feet)	Formation
	crypto-crystalline to lithographic
3080	Some hard limy gray fine-grained sand and lime
3125	Dense gray lime
3165	Dense to crystalline lime and streaks of dense hard dolomite; some dense white calcite crystals and pyrite; trace of limy sand
3240	Dense gray limes and streaks of dolomite; rare pyrite
3320	Dense gray limes with almost transparent smoky chert; a small amount of white chert, one fragment having an included crystal of dolomite
3345	Gray dense lime, some dark and gritty
3350	Gray dense lime, some coarsely crystalline and probably conglomeratic; some very fine lime sand concentrations
3360	Hard dense gray lime, dense dolomite, hard, dense oolitic lime, some pyrite. Some of lime may be conglomeratic
3415	Dense gray limes
3425	Lime and dolomitic lime, some tight oolitic lime
3435	Lime and dolomitic lime and lime conglomerate with some red staining - some very light gray dolomite
3445	Lime and dolomite, some red stained conglomerate, some oolitic lime, some fossils resembling oolites but with internal radiating septa up to .9 mm. in diameter; some calcite with pink staining
3508	Mainly dense lime with some calcite veining with pink discoloration. At 3495 some fine-grained dense tan lime with some included sand grains
3508	TOTAL DEPTH, Driller

Note: Formations as determined by samples and electric log:

Claiborne Group	1017
Wilcox Group	1017-1715
Midway Shale	1715-2160
Arkadelphia Marl	2160-2219
Nacatoch Sand	2219-2234
Ozan Sand and Unconformity Material	2803-2880
Base of Ozan and Cretaceous, Top of Ordovician and Plattin Lime	2880

GREENE COUNTY

	Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
	2	Bowler, et al	Bowler		11-16N- 5E	1800	355 ±	1922	1923
	4	Clay County Oil	Williams		21-17N- 5E	1700	360 ±	1919	1919
	6	Preston Oil Co.	Preston		30-18N- 5E	1400	345 ±	1920	1920
	5	Preston Oil Co.	Lovelady		30-18N- 5E	2200	353 ±	6- 1-21	4- 5-22
†*	3	Volcanic Oil Co.	McDaniel, Alice		16-16N- 5E	1694	350 ±	1922	1922
	1	Volcanic Oil Co.	McDaniel, Alice		11-16N- 5E	3000	358 ±	1-30-22	8-17-23

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

GREENE COUNTY

Company: Volcanic Oil & Gas Company — Well No. 1
Lease: Alice McDaniel
Location: Near Paragould — Sec. 16-16N-5E
Total Depth: 1694 — Elevation: 350 Est.
Began Drilling: 1922 — Completed: 1922
Casing Record: 10" @ 212'
Source of Information: Arkansas Geological Survey Bulletin No. 2, "Oil and Gas Geology of the Gulf Coastal Plain of Arkansas" by W. C. Spooner, p. 342.

Log of Well

Botton (Feet)	Formation
	QUATERNARY
	PLEISTOCENE AND RECENT SERIES:
25	Clay and gravel
30	Yellow clay
	Unconformity
	UNDIFFERENTIATED:
165	Fine sand (blue and gray)
208	Gravel and boulders
	TERTIARY
	EOCENE SERIES
	UNDIFFERENTIATED:
230	Water sand
231	Gray clay
235	Lignite
237	Pipe clay
284	Fine sand and gravel
290	Blue gumbo
330	Sand with streaks of shale
333	Blue gumbo
368	Gray pack sand
370	Lime and flint
397	Blue sand rock and pack sand
399	Lime shells
410	Water sand
488	Hard sand and lignite
505	Blue and gray sand
520	Black gumbo
525	Gray sand
584	Blue marl and lime shells
610	Sand and sand rock
630	Blue marl
635	Lignite
670	Gray and blue sand
685	Blue marl
	MIDWAY GROUP:
725	Black gumbo
745	Sand (water)
747	Chalk rock
749	Gumbo
765	Gray sand
772	Sand and gumbo
775	Gumbo
780	Sand
835	Gumbo
840	Water sand
1010	Gumbo
1040	Black gumbo
	Unconformity
	CRETACEOUS
	GULF SERIES
	ARKADELPHIA MARL AND NACATOCH SAND:
1075	Water sand
1104	Gumbo
1175	Water sand
1206	Gumbo and boulders
1215	Water sand
1260	Gumbo
1360	Sand
1400	Gumbo
1575	Sandstone
	Unconformity
	PALEOZOIC
	UNDIFFERENTIATED:
1650	Hard lime rock
1694	Hard granite lime
1694	T. D.

INDEPENDENCE COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†*4-A	Batesville Oil & Gas	Hinkle	180'S 925'W Cen	17-13N- 6W	330	300 ±		2-21-18
* 9	Daniels, C. P.	Wyatt, Kelly	1085'S, 50'E of Cen	16-12N- 5W	603	350 ±	1939	1939
8	Davis Oil & Gas Co.	Montgomery, J. P.	SW NW	31-15N- 6W	900	360 ±	1923	1924
†* 10	Fitzpatrick, Jack	Pryor, W. W.	Cen SE SE	32-13N- 6W	1926	385 DF	6-25-41	11- 9-41
4	Fulk & Riffle	Adams		14-13N- 7W	1600	320 ±	2-26-21	5- 6-21
1	Neff, et al	Earnhart		3-12N- 6W	1100	350 ±	1909	1910
†* 7	Southern Mine Co.		SW SE	8-14N- 7W	2040	645		
* 3	Sulphur Rock Oil Co.	Jameson		13-13N- 5W	1270	375 ±		1916
†* 2	Walbert Oil Co.	Grigsby	200'N, 300'W Cen	3-12N- 6W	2600	350 ±	6- 9-21	1925

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

INDEPENDENCE COUNTY

Company: Batesville Oil & Gas Company — Well No. 1
Lease: Hinkle
Location: 180′ S 925′ W of Center — Sec. 17-13N-6W
Total Depth: 330 — Elevation: 300′ ±
Began Drilling: — Completed: 2-21-18
Casing Record: 10″ @ 21′.
Source of Information: Mackenzie Gordon, Jr. Assoc. Geologist, U.S.G.S., 6-8-44.

Log of Well

Bottom (Feet)	Formation
4	Soil, yellow soft
16	Clay, blue hard
19	Gravel, yellow cemented
	BATESVILLE SANDSTONE (Hugh D. Miser)
21	Shale, blue hard
24	Shale, grey sandy
47	Rock, dark hard-gritty
54	Rock, yellow sand, hard boulder-kidney **manganese**
77	Conglomerate, grey hard mill stone grit, full boulders, showing gas at 77 feet
82	Sand rock, blue hard
86	Boulders, dark hard
	MOOREFIELD SHALE (Hugh D. Miser)
138	Slate shale, blue hard-sticky
150	Slate, blue sticky shale
173	Sticky shale blue and gumbo
190	Hard shale blue and gumbo
196	Sand, blue hard. Sulphurous water
223	Sticky shale and gumbo, blue hard
236	Slate-shale, grey hard (limy)
265	Hard lime flinty shale, blue hard
270	Lime, blue hard
285	Shale, light soft, struck gas flow
300	Shale, black soft
330	Shale, dark harder

DRILLER'S NOTE: At 77 feet drill entered gas strata-showing thru 10″ casing "frying like."
At 285 feet struck gas again and the water thru 10″ hole and thru 273 feet boiled up like kettle heavy boiling.

The above log was sent to the U. S. Geological Survey by Wm. M. Brown, President of the company, on Feb. 21, 1918. The hole was abandoned at 330′ when drill stem broke. The correlations of the log were made by Hugh D. Miser. The location of the well is approximately 180′ S 925′ W of Center, Sec. 17, T. 13N, R. 6W. The casing is still in the hole and is grown over by a small bush in a grassy field.

June 8, 1944 (Signed) Mackenzie Gordon, Jr.
Assoc. Geologist, U.S.G.S.

INDEPENDENCE COUNTY

Company: Walbert Oil Company — Well No. 1
Lease: Grigsby
Location: 200′ N 300′ W cen. — Sec. 3-12N-6W
Total Depth: 2600 — Elevation: 350 ±
Began Drilling: 6-9-21 — Completed: 1925
Casing Record:
Source of Information: Description of cuttings by Hugh D. Miser of U. S. Geological Survey

Log of Well—Incomplete Log

Bottom (Feet)	Formation
6	Surface clay
62	Batesville sandstone
543	Moorefield shale
674	Boone chert
707	Chattanooga shale
820	Penters chert
835	St. Clair limestone
840(?)	Cason shale
947	Fernvale limestone
959	Kimmswick limestone
1186(?)	Plattin limestone
1357(?)	Joachim limestone
1494(?)	St. Peter sandstone
1715	Ordovician sandstone and limestone older than the St. Peter sandstone
1719	Gray limestone and round sand grains
1734	Gray fine-grained magnesian limestone
1741	Gray fine-grained magnesian limestone and round sand grains
1754	Dark-gray fine-grained magnesian limestone
1760	Dark-gray fine-grained magnesian limestone, taste of salt
1765	Gray limestone and sand grains
1773	Light-gray magnesian limestone and sand grains
1778	Light-gray magnesian limestone and sand grains; sand predominates; grains well rounded and translucent
1783	Gray limestone and sand grains
1788	Gray magnesian limestone and dark-gray dolomite; both are fine grained
1805	Gray fine-grained magnesian limestone
1808	Gray fine-grained magnesian limestone
1812	Brown fine-grained limestone and some sand grains
1816	Dark-gray fine-grained limestone
1820	Dark fine-grained lime-stone
1824	Dark-gray fine-grained magnesian limestone
1829	Gray limestone and sand grains
1842	Light-gray fine-grained limestone
1858	Dark-gray fine-grained limestone
1862	Light-gray sandy limestone
1866	Dark-gray fine-grained limestone and sand grains
1870	Light-gray sandy limestone
1877	Light-gray fine-grained limestone
1885	Dark-gray limestone and sand grains
1892	Gray limestone and sand grains
1896	Gray and brownish black fine-grained limestone
1904	Light-gray fine-grained limestone and sand grains; sand

INDEPENDENCE COUNTY—Continued

Bottom (Feet)	Formation
	predominates; grains well rounded and translucent
1908	Light-gray fine-grained magnesian limestone
1912	Gray fine-grained limestone and some sand grains
1916	Dark gray fine-grained limestone
1920	Dark-gray fine-grained magnesian limestone
1930	Gray fine-grained magnesian limestone
1938	Gray fine-grained magnesian limestone
1942	Well rounded translucent quartz grains and extremely fine particles of limestone
1947	Light gray magnesian limestone and some sand grains
1954	Black limestone
1965	Gray fine-grained magnesian limestone
1970	Dark limestone
1977	Dark limestone and sand grains
1992	Gray fine-grained limestone
2013	Gray magnesian limestone and sand grains
2024	Light-gray magnesian limestone
2036	Well rounded translucent sand grains and fine particles of limestone
2042	Well rounded translucent sand grains; gray
2047	Well rounded translucent sand grains and light-gray limestone
2052	Same as 2047′
2060	Same as 2047′ and 2052′
2065	Light-gray fine-grained magnesian limestone and some sand grains
2080	Same as 2065′
2084	Well rounded translucent quartz grains and some gray limestone
2093	Same as 2084′
2097	Mostly gray sand, some limestone; grains well rounded and translucent
2101	Gray fine-grained magnesian limestone
2104	Dark-gray fine-grained magnesian limestone and some white calcareous sandstone
2107	Gray sand grains; well rounded and translucent
2115	Gray fine-grained limestone
2118	Gray fine quartz sand and some limestone
2120	Gray fine quartz sand and some limestone
2124	Same as 2120′
2126	Same as 2120′ and 2124′
2133	Dark limestone and some quartz grains
2600	No record T. D. 2600

Note: Cuttings from surface to depth 1715′ were not sent to U. S. Geological Survey for examination.

INDEPENDENCE COUNTY

Company: Southern Mine Company Well No. 2
Lease:
Location: SW¼ SE¼ Sec. 8-14N-7W
Total Depth: 2040 Elevation: 645
Began Drilling: Completed:
Casing Record:
Source of Information: Arkansas Geological Survey Annual Report for 1890, Vol. I, "Manganese," by R. A. F. Penrose, p. 118.

Log of Well

Bottom (Feet)	Formation
50	Detritus
290	Izard limestone
300	Sandy limestone
425	Saccharoidal sandstone
470	Calcareous sandstone with interbedded gray limestone and sandstone
508	Massive gray and brown limestone with disseminated sand grains
605	Massive gray limestone with sand grains (82′ thick) running into chocolate-brown limestone with sand grains (15′ thick)
614	Slightly calcareous gray sandstone
696	Highly calcareous gray sandstone
715	Massive chocolate brown and gray limestone
785	Massive gray limestone
900	Massive gray limestone harder than last
955	Slightly sandy gray limestone (4′ thick) passing at its base into white sandstone (51′ thick)
1000	Sandy dark gray limestone
1130	Fine-grained calcareous gray sandstone becoming coarser at the base.
1155	Massive gray limestone with sand grains
1180	Fine grained white sandstone
1200	Sandy gray limestone running into fine grained white sandstone
1275	Massive, chocolate - brown limestone
1350	Massive, gray limestone with fine sand grains
1380	Massive, gray limestone with coarser sand grains
1410	Massive, gray limestone
1430	Fine-grained sandstone (white)
1475	Massive, gray limestone with grains of sand
1530	Fine-grained calcareous gray sandstone
1670	Fine-grained calcareous white sandstone
1722	Shaley gray limestone with thin strata of green shale passing at its base into a shaley calcareous sandstone (2′ thick)
1925	Very fine-grained, calcareous gray sandstone with thin beds of black shale
2040	Cream colored gray limestone T. D. 2040

NOTE: From Carey Croneis, AGS Bull. 3.
50-290 Joachim and Plattin Limestone
290-300 Joachim Limestone
300-425 St. Peter Sandstone

INDEPENDENCE COUNTY—Continued

INDEPENDENCE COUNTY

Company: Jack Fitzpatrick — Well No. 1
Lease: W. W. Pryor
Location: Center SE SE — Sec. 32-13N-6W
Total Depth: 1926 — Elevation: 385 DF
Began Drilling: 6-25-41 — Completed: 11-9-41
Casing Record: 8¾" @ 1143
Source of Information: Arkansas Oil & Gas Commission

Partial Log of Well

(Feet)	Formation
1- 50	Fine-grained sugary sandstone, some of it pale blue-gray in color, the remainder buff. The blue-gray sandstone contains some carbonate cement.
50- 53	Buff, medium-grained sand, with some blue-gray sandstone containing a minor amount of carbonate.
53- 57	Fine-grained, blue-gray sandstone containing a minor amount of carbonate; also medium grained, buff sand.
57- 60	Fine-grained pale gray sandstone, some of which contains small amounts of carbonate.
60- 65	Fine-grained, medium gray calcareous sandstone, with a small amount of gray shale.
65- 75	Medium gray calcareous shale.
72- 82	Fine-grained, gray calcareous sandstone.
82- 86	Fine-grained, medium gray, calcareous sandstone.
86- 88	Fine-grained, medium gray, calcareous sandstone.
88- 92	Medium to dark gray, fine-grained calcareous sandstone with gray calcareous shale. A small amount of pyrite is present.
92-118	Fine-grained, gray calcareous sandstone.
118-130	Medium gray shale.
130-135	Fine-grained, gray calcareous sandstone, with a small amount of darker gray calcareous shale.
135-140	Missing.
140-145	Medium gray, fine-grained calcareous sandstone, and gray calcareous shale.
145-152	Medium gray shale, some of which is slightly calcareous.
152-220	Dark gray shale, and fine-grained, medium gray, slightly calcareous sandstone. The sandstone is somewhat more abundant than the shale.
220-252	Very fine-grained slightly calcareaous gray sandstone, with a lesser amount of gray calcareous shale.
252-260	Dark gray, fine-grained calcareous sandstone, with a lesser amount of dark gray shale.
260-265	Dark gray shale and argillaceous fine-grained sandstone, some of which contains a small amount of carbonate.

INDEPENDENCE COUNTY—Continued

(Feet)	Formation
265-270	Dark gray, fine-grained, calcareous sandstone, containing a few fragments of white calcite.
270-271	Dark gray, finely arenaceous shale, some of which contains carbonate.
271-295	Dark gray, fine-grained, calcareous sandstone.
295-299	Dark gray, fine-grained, calcareous sandstone, with some fragments of pale gray, highly calcareous, fine-grained sandstone.
299-301	Dark gray, fine-grained, calcareous sandstone, with a lesser amount of pale gray, highly calcareous fine-grained sandstone.
301-303	Dark gray, fine-grained, calcareous sandstone, with a lesser amount of pale gray, highly calcareous fine-grained sandstone.
303-306	Fine-grained, dark gray, calcareous sandstone.
306-314	Fine-grained, dark gray, calcareous sandstone, containing occasional small mica flakes.
314-320	Fine-grained, dark gray, calcareous sandstone, with a small amount of medium gray shale.
320-329	Dark gray, fine-grained, calcareous sandstone with a lesser amount of pale gray impure limestone.
329-336	Dark gray, fine-grained, calcareous sandstone, containing occasional small flakes of mica; also some pale gray impure limestone.
336-341	Dark gray limestone, some of which is finely arenaceous.
341-349	Pale gray limestone, and dark gray fine-grained calcareous sandstone containing occasional small flakes of mica.
349-357	Medium gray limestone.
357-371	Dark gray,fine-grained, calcareous sandstone, containing small flakes of mica.
371-386	Missing.
386-404	Dark gray, fine-grained, calcareous sandstone containing small flakes of mica.
404-414	Medium gray areneceous limestone.
414-424	Dark gray fine-grained calcareous sandstone, containing small mica flakes.
424-427	Dark gray, fine-grained, calcareous sandstone, containing small mica flakes.
427-430	Dark gray, fine-grained, calcareous sandstone, with some fragments of white calcite.
-437	Dark gray, fine-grained, calcareous sandstone.
437-440	Medium gray, arenaceous limestone.
440-442	Medium gray limestone, some of which is finely arenaceous.
442-444	Dark gray limestone, with occasional small fragments of white calcite.
444-446	Dark gray limestone.
446-450	Medium gray limestone, with some medium to pale gray shale.
450-455	Medium gray limestone, and gray shale, some of which is slightly calcareous.
455-457	Pale gray limestone, some of which is finely arenaceous.

INDEPENDENCE COUNTY—Continued

(Feet)	Formation
457-459	Medium gray limestone, gray chert, and dark gray, finely arenaceous, slightly calcareous shale.
459-460	Pale gray limestone, dark gray finely arenaceous shale, and medium gray chert.
460-463	Medium gray limestone, and gray chert in about equal amounts.
463-465	Gray chert, with a lesser amount of medium to pale gray limestone, some fragments of pink carbonate, and occasional fragments of dark gray, fine arenaceous, calcareous shale.
465-467	Medium gray chert, with a lesser amount of pale gray limestone. Some of the fragments show brown iron oxide stains.

NOTE: Tops from Missouri Geological Survey log No. 7634

	From	To	
Batesville	0	60	
Moorefield	60	445	
Boone	445	590	
Chattanooga	590	630	
Devonian	630	680	
Silurian	680	695	
Cason	695	700	
Fernvale	700	760	
Kimmswick	760	810	
Plattin-Stones River	810	1052	
Joachim	1052	1143	
St. Peter	1143	1268	
Everton	1268	1926	T.D.

JACKSON COUNTY

	Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
*	2	Full Moon Petroleum Co.	Hague, C. L.	365'W 330'N SEc SE NE	24-10N- 4W	352	212 ±	11-24-27	1-10-28
	6	Graham Brothers	Jones		33-13N- 1W	540	237 ±		1920
†*	3	Jackson Development Co.	Carroll (Johnson & Berger)	400'N 400'W SEc SW NE	31-11N- 1W	1269	215	1921	1922
†*	4	Newport Prospecting Well			10-11N- 3W	1000	210	1900	1900
†*	5	Page	Greenhaw, Charlie	W of Cen	3-12N- 1W	972	250	8-25	8-27-25
*	7	Village Creek Development Co.	Bowen	300'S 300'W NEc NE NW	33-13N- 1W	584	241	1-25	5-25

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

JACKSON COUNTY

Company: Jackson Development Company Well No. 1
Lease: Johnson and Berger
Location: 400' N 400' W SEc SW¼ NE¼ Sec. 31-11N-1W
Total Depth: 1269 Elevation: 215
Began Drilling: 1921 Completed: 1922
Source of Information: Arkansas Division of Geology.

Driller's Log of Well

Bottom (Feet)	Formation
5	Surface
40	Sand
48	Lignite
130	Sand
150	Sand and gravel
178	Shale
179	Rock
265	Shale
267	Rock
496	Shale boulders
725	Hard shale boulders
738	Soft shale
795	Hard shale
798	Gumbo
870	White and black shale
885	Fine shale
905	Hard shale boulders
913	Sand
945	Sandy shale
956	Hard shale
968	Soft shale
969	Rock
978	Sand
994	Shale
996	Rock
1005	Soft sand
1009	Hard rock pyrites
1032	Coarse white sand
1060	Shale
1065	Hard sand rock
1105	Shale
1107	Sand rock
1115	Sandy shale
1124	Soft sand
1148	Hard shale
1158	Sand
1160	Brown limestone
1193	Shale
1215	White coarse sand
1219	Green sand streaks of shale
1232	Coarse sand
1239	Hard lime pyrites rock
1259	Shale
1262	Soft lime
1263	Hard lime
1269	Hard lime rocks streaks of pyrite
	T. D. 1269
	Paleozoic at 1262—George C. Branner

NOTE: Well is known by either of the following names:
Jackson Development Co.,
Johnson-Berger, or Valentin well.
Tops from drillers' log in Missouri Geological Survey files.

	From	To
Wilcox		498
Midway	498	738
Cretaceous	738	1232
Paleozoic (Hard pyritic limestone)	1232	1269 T.D.

JACKSON COUNTY

Company: Page — Well No. 1
Lease: Charlie Greenhaw
Location: W center Sec. 3-12N-1W
Total Depth: 972 — Elevation: 250
Began Drilling: 8-?-25 — Completed: 8-27-25
Casing Record: 10 inch at 157 feet
Source of Information: Arkansas Division of Geology

Driller's Log of Well

Bottom (Feet)	Formation
40	Surface clays and water sand
55	Lignite
80	Sand and gravel
95	Rock and sand
100	Sand rock
120	Sand and hard shale
150	Shale and coarse sand
157	Gumbo set 10" casing
161	Gumbo
367	Black shale
368	Shell rock
390	Shale
400	Sandy shale
408	Lime and shale
428	Black shale w/strks of lime
489	Black shale w/strks of lime
493	Black shale w/strks of lime
498	Sandy shale
505	Gumbo
589	Black shale
591	Gumbo
593	Sandy shale
597	Sandy shale w/strks of lime
608	Sandy shale
615	Limey shale
630	Limey shale
631	Sand rock w/strks of lime
644	Shale
649	Sand, water
652	Sand rock
703	Sand shale
704	Sand rock
720	Sandy shale
741	Gumbo, gravel and black shale
742	Sand rock
745	Sandy shale
762	Sandy shale
764	Sand rock
765	Rock
778	Sand and clay
792	Sandy shale
803	Sandy shale
804	Rock and sandy shale
846	Sandy shale
847	Sand rock
852	Sandy shale
854	Black sand rock w/pyrites
867	Chalky clay
868	Rock, pyrites and lime
872	Chalk sand rock
890	Black shale
892	Broken lime and black shale
898	Black shale
948	Lime rock, sand and shale
950	Sand, water
954	Lime rock, sand and strks of shale
960	Lime rock, sand and hard black shale
964	Lime rock, put on roller bit
972	Lime rock and streaks of hard shale
972	Total depth

JACKSON COUNTY

Company: Newport Prospecting Well — Well No. 1
Lease:
Location: One mile SW of Newport — Sec. 10-11N-3W
Total Depth: 1000 — Elevation: 210
Began Drilling: 1900 — Completed: 1900
Casing Record:
Source of Information: Geology and Ground Waters of Northeastern Arkansas, U.S.G.S. Water Supply Paper 399, p. 197

Driller's Log of Well

Bottom (Feet)	Formation	Bottom (Feet)	Formation
30	Clay and sand	655	Quicksand
105	Sand	1000	Rock of different kinds, ending in flint
155	Soapstone		

NOTE: The 105 feet of clay and sand at the top are of Recent (and Pleistocene) age; the rocks from the base of the quicksand downward are supposedly Paleozoic. The 550 feet between the Recent and the Paleozoic may all be Cretaceous, though it is possible that the upper 50 feet, reported as "soapstone," is Tertiary.

By Purdue

LAWRENCE COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†* 1	Home Oil Co.	Long, C. H.	514'N, 70'W SEc NW NE	11-16N- 1E	411	280	1925	1925

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

LAWRENCE COUNTY

Company: Home Oil Company Well No. 1
Lease: C. H. Long
Location: 514' N 70' W SE cor NW¼ NE¼ Sec. 11-16N-1E
Total Depth: 411 Elevation: 280
Began Drilling: 1925 Completed: 1925
Source of Information: Arkansas Division of Geology

Driller's Log of Well

Bottom (Feet)	Formation
16	Surface Clay
28	Clay and sand
68	Salt and pepper sand
105	Coarse water sand
248	Sand and gravel
349	Sand and boulders
366	Light gray, blue sandy gumbo
370	Very hard rock
383	Sandy gray gumbo, show gravel (?) (dark gray)
406	Very dark tough gumbo
407½	Pure pyrite
411	Hard rock

NOTE: Paleozoic reached at 407½ feet. George C. Branner

LEE COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†* 1	Arkansas-Louisiana Pipe Line Co.	McDonald, Emma	1500'N 370'E SWc	28- 1N- 4E	3754	355	6- 8-34	8- 3-34
* 2	Moro Development Co.	Winters, Pat	1320'N 330'E SWc SE SE	14- 2N- 1E	2463	196.2	12- 9-25	5-10-26
†* 3	Thompson, Stanley A.	Comer, Mrs. Robbie Gill	330'S 330'W of NEc NE	17- 3N- 2E	3807	204 Gr.	7- 6-41	1941
‡†* 4	Smith & Cockburn Oil Co.	Robinson	285' from N/L & 420' from E/L NW NW	14- 2N- 1E	3643	203 ±	5-10-48	6-14-48

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

LEE COUNTY

Company: Smith and Cockburn — Well No. 1
Lease: L. W. Robinson
Location: 285' from N/L 420' from E/L NW NW — Sec. 14-2N-1E
Total Depth: 3643 — Elevation: 203 (topo map)
Began Drilling: 5-10-48 — Completed: 6-14-48
Casing Record: 10" @ 179
Source of Information: C. A. Renfroe, Petroleum Geologist, Arkansas Resources and Development Commission

Log of Well

Bottom (Feet)	Formation
	CLAIBORNE and YOUNGER (Samples begin at 600)
610	Fine to coarse, poorly sorted, coarse sandstone, lignitic flecks, good porosity, pyrite
620	Coarse, poorly sorted porous sandstone, reworked chert
630	Coarse sandstone, trace lignite
640	Very coarse loose sand
650	Coarse loose sand and light tan clay streak
660	Coarse sandstone, chert, gravel
680	Circulation Sample: hard, tight fine-grained quartzitic sandstone, very slight stain
690	Sandstone as above, trace porosity
700	Fine to medium fine sandstone, trace porosity, slight stain
710	Fine-grained tight sandstone
720	Lignite, 85% of sample
730	Tan shaly sandstone
740	Chocolate brown, poorly fissile shale
750	Ditto and brown sandy micaceous shale, trace lignite
760	Sandy, chocolate brown shale
770	Brown, sandy micaceous shale
780	Medium-grained tight sandstone, trace pyrite, gray poorly fissile shale
790	Brown sandy shale
800	Fine to medium-fine hard white tight quartzitic sandstone
810	Sandstone as above, trace dead stain (?)
820	Brown, fine-grained shaly sandstone, streaks good porosity
880	Very fine-grained white siliceous sandstone
890	Medium to medium coarse, brown shaly sandstone, dead stain (?)
900	Medium to medium coarse, poorly sorted shaly sandstone
920	White, tight very fine-grained silty quartzitic sandstone
940	Sandstone as above, some gray poorly fissile shale
960	Brown, coarse-grained sandstone
970	Brown, coarse-grained sandstone, chocolate brown shale
980	White fine-grained silty sandstone
1000	Lignite and chocolate brown shale
1010	Light gray siltstone
1020	Gray siltstone and fine-grained sandstone
1030	Hard quartzitic sandstone
1040	Fine-grained silty sandstone
1050	White, tight siltstone

LEE COUNTY—Continued

Bottom (Feet)	Formation
1060	Chocolate brown shale
1070	Lignite, thin streak silty sandstone
1080	Chocolate brown shale and fine-grained sandstone
1090	Fine - grained, hard, white, tight quartzitic sandstone
1100	No sample
1110	Coarse, loose sand
1130	Loose gravel, cavings (?)
1140	Loose coarse sand and gravel
1150	Chocolate brown spintery fissile shale
1160	Shale as above and medium-grained sandstone
1170	Brown splintery shale
1180	Brown, sandy, splintery shale
1190	Chocolate brown fissile shale
1200	Fine-grained, micaceous poorly sorted sandstone
1210	Laminar brown, micaceous fine - grained tight sandstone
1220	Chocolate brown, very fissile shale
1230	Circulation sample: light-brown, fine-grained ironstone (ankerite?)
1240	Siderite, pyrite, "ironstone," fine - grained, calcareous sandstone
1250	White, fine-grained silty sandstone
1260	Medium to coarse sandstone shaly matrix
1270	Loose, coarse-grained sand, very porous
1280	Sand as above, some silty streaks
1290	Sand as above and chocolate shale
1300	Sand as above, decrease in grain size
1310	Fine to coarse, very poorly sorted angular sandstone shaly matrix, thin layer lignite
1340	Chocolate brown fissile shale
1350	Chocolate brown fissile shale lignitic flecks
1360	Fine to coarse, poorly sorted sub - angular sandstone, shaly matrix
1370	100% loose sand
1390	Sand as above, trace red sideritic shale
1400	Coarse loose sand
1410	Coarse loose sand, trace lignite
1420	Medium-grained tight sandstone thin lignite layer
1430	Brown fissile shale, trace lignite
	WILCOX GROUP
1440	Thick layers "ironstone" (ankerite?) and gray siltstone
1450	"Ironstone" as above and gray siltstone
1460	Gray siltstone, thin layers "ironstone"
1470	Gray silty sandstone, siderite
1480	40% "ironstone," siderite and siltstone
1490	Same as above
1500	Sideritic, fine-grained sand
1510	Very fine grained white silty sandstone with a slight greenish tinge
1520	Sandstone as above
1530	Chocolate brown shale, thick layer lignite
1560	Gray-green siltstone
1570	Same as above and chocolate brown fissile shale
1580	Gray-green siltstone
1590	Gray-green siltstone, trace siderite
1600	Gray-green siltstone
1610	Gray siltstone
1620	Gray silty sandstone, trace siderite

LEE COUNTY—Continued

Bottom (Feet)	Formation
1650	Gray-green silty sandstone
1660	Hard sideritic sandstone, silty white sandstone and siltstone
1680	Loose, fine-grained sand glauconite, reworked chert, ferro-magnesian minerals
1690	Loose sand and siltstone
1700	Siltstone, fine-grained porous sandstone
1710	Gray siltstone
1720	Gray-green siltstone
1730	Hard white glassy sandstone
1740	Siltstone, loose gravel
1770	Loose, coarse sand, femics phosphate nodules, pyrite and reworked chert
1780	Sand as above, trace lignite
1790	Sand as above, decrease in grain size
1800	Sand as above, lignitic flecks
1810	White loose quartz grains
1820	Very porous white medium-grained sandstone, barite
1830	Lignite in sandstone
1840	Fine-grained tan sandstone and chocolate shale
1850	Fine-grained sandstone, trace lignite
1860	Fine-grained sandstone, siderite nodules and lignite
1870	Gray siltstone
1880	Gray siltstone
1890	Soft gray shale, trace lignite
1900	Soft gray shale, thin lignite layer
1910	Fine-grained sandstone, lignite layer
1920	Fine-grained loose sandstone, glauconite, pyrite, reworked chert
1930	Fine-grained sandstone, chert pebbles, fish vertebra
1940	Fine to medium sandstone, siderite, pyrite, greenish fissile shale (bentonite?)
1950	Gray, finely micaceous shale, thin layer lignite
1960	Gray, finely micaceous shale, siltstone
1970	Siltstone, plant fragments
1980	Fine-grained sandstone, trace siderite
1990	Sandstone as above, reworked chert
2000	Gray silty sandstone
2010	Hard glassy sandstone, some calcareous sandstone
2020	Tan silty sandstone
2030	Gray silty sandstone
2040	Sandstone as above
2050	Gray siltstone
2060	Gray siltstone
2070	Gray-green siltstone
2080	Gray-siltstone, siderite trace lignite
2090	Fine-grained sandstone, trace lignite
2110	Gray siltstone
2160	Fine-grained silty sandstone and siltstone
2170	Trace gravel (reworked)
2180	Fine-grained sideritic sandstone
2190	Gray siltstone
2200	Silty sandstone
2205	Silty sandstone
	PORTER'S CREEK
2210	Gray silty shale, siderite concretions
2230	Gray silty shale, siderite
2240	Gray silty shale, concentration of glauconite
2250	Soft gray fissile shale
2450	Soft gray fissile shale with siderite nodules
2460	Splintery gray flaky shale
2510	Splintery flaky shale, hard and gummy
2520	Very fissile splintery gray shale
2570	Gray splintery shale, siderite

LEE COUNTY—Continued

Bottom (Feet)	Formation
	nodules
2580	Shale as above, dense limestone nodules
2610	Concentration of siderite, gray splintery shale
2660	Shale as above, concentration of siderite
	CLAYTON FORMATION:
2680	Soft gray calcareous shale
2720	Soft gray calcareous shale, foraminifera
2730	Same as above, glauconite, foraminifera (N. B. Most of the calcareous material is washed away when sample is thoroughly cleaned)
	ARKADELPHIA FORMATION:
2740	Gray argillaceous marl, concentration of glauconite, pyrite, foraminifera, ostracods
2760	Very calcareous gray shale
2770	Trace medium gray finely micaceous shale
2780	Soft gray calcareous shale
2792	Medium gray, very fissile finely micaceous shale, light gray calcareous shale, glauconite
	NACATOCH FORMATION:
2800	White to gray calcareous sandstone, very glauconitic, very fossiliferous
2810	Sandstone as above, some porous streaks, salt taste on core
2830	Sandstone as above, layers hard calcareous sandstone
2860	Very fossiliferous calcareous glauconitic sandstone
2870	Sandstone as above with shaly matrix
2880	Sandstone as above, pyrite
2890	Glauconitic sandstone with shaly matrix, trace lignite
2900	Gray sandy shale with fragments of fossils
2910	Coarse angular, very fossiliferous, glauconitic, calcareous sandstone with phosphatic nodules
2920	Coarse angular sandstone, very good porosity, phosphate nodules
2930	Coarse angular sandstone, soft gray fossiliferous shale
2940	Soft gray fossiliferous shale
2960	Coarse angular sandstone phosphate nodules
2970	Gray flaky, very fissile shale slightly calcareous
2980	Gravel (?) looks in place, soft gray calcareous shale
2990	Soft gray calcareous shale, white fossil fragments, phosphate nodules
3000	Medium to coarse-grained glauconitic sandstone with greenish tinge, phosphate nodules
3010	Sandstone as above, concentration of large phosphate pellets
3020	Soft gray calcareous medium fissile shale, finely micaceous
3040	Shale as above, but more calcareous
3050	Shale as above, glauconitic
3060	Gray soft, calcareous shale, glauconite
3080	Gray soft, calcareous shale
	SARATOGA FORMATION (?):
3090	Medium gray, finely micaceous fissile shale
3100	Medium gray fissile shale
3130	Medium gray fissile splintery shale
3140	Tough platy gray fissile shale

LEE COUNTY—Continued

Bottom (Feet)	Formation
3170	Tough platy gray fissile shale trace lignite
	MARLBROOK - ANNONA (?)
3180	Light gray, gritty micaceous fissile shale
3190	Chunky micaceous gritty gray shale
3250	Micaceous siltstone
3260	Gummy, silty shale, trace white glauconitic limestone or marl, light tan calcareous shale (Top Annona?)
3270	Hard glauconitic chalk, tan silty shale
3280	Trace glauconitic chalk, gray marl
3290	Soft gray calcareous, glauconitic shale
3300	Poor sample
3310	Gray, finely micaceous calcareous shale
3320	Gray, finely micaceous shale, very fissile, pyrite and pyritic worm tubes (?)
3340	Soft papery gray fissile shale
3350	Shale as above, calcareous, pyritic
3351	Circulation sample: very glauconitic gray marl
3390	No samples
3400	Gray calcareous shale, phosphatic nodules pyrite
3410	Gray calcareous shale, trace sandy calcareous shale
3420	Tan, silty, calcareous marl
3430	Tan, silty, calcareous marl, trace glauconite
3440	Tan, silty, calcareous marl
3450	Sandy limestone, marl as above hard tight, siliceous sandstone
	OZAN (?) FORMATION:
3460	Medium-grained, tight glauconitic sandstone, pyritic
3470	Sandstone as above, very glauconitic, gray, gritty, finely micaceous shale
3480	Medium-grained shaly, very glauconitic sandstone, sandy micaceous gray shale, concentration of pyrite.
3490	Glauconitic sandy limestone and limy sandstone, pyrite
3510	Tight, hard, medium-grained calcareous, very glauconitic sandstone
3520	Gray fissile, micaceous shale, pyritized wood
3544	Well sorted, medium-grained, very porous sandstone with siderite, dark green glauconite pellets, lignite in sand. Heavy concentration of pyrite at base (Cretaceous-Pennsylvanian contact)
	PENNSYLVANIAN SYSTEM (ATOKA)?
3550	Hard, black, shiny, micaceous shale
3643	Hard, black, shiny, micaceous shale. T. D. 3643

Core Record

Cored 2795 to 2799: recovered 2 feet shaly glauconitic sandstone with streaks of fair porosity, salt taste.

Cored 2799 to 2819: recovered 4½ feet hard tight calcareous fossiliferous, glauconitic sandstone. No shows of oil or gas. Salt taste.

Cored 3479 to 3484: recovered 4 feet shaly gray glauconitic sandstone and 6 inches black to dark gray, sandy, very micaceous shale.

Electric log was run to T. D. 3643 on 6-14-48.

LEE COUNTY

Company: Thompson, Stanley A. Well No. 1
Lease: Comer, Mrs. Robbie Gill
Location: 330'S 330'W of NEc NE¼ Sec. 17-3N-2E
Total Depth: 3807 Elevation: 204 ground, 210 table
Began Drilling: 7-6-41 Completed: 1941
Casing Record: Set 10" @ 255' w/50 sks.
Source of Information: Arkansas Oil and Gas Commission, 1-10-42

Driller's Log of Well

Bottom (Feet)	Formation
55	Clay and gravel
255	Sand and gravel
340	Brown sand, gray clay streaks of sand
440	White angular sand smoky and gray sand
510	Gray clay
546	Smoky sand, grey clay
715	Clay, white to grey to brownish
730	Sand, fine brown angular to coarse white sand-Top Wilcox (?)
840	Sand, fine angular, dirty, slightly micaceous
892	Sand, fine, angular, dirty light brown, few red grains
990	Sand, coarse angular, white to brown
1000	No sample
1090	Sand, white-brown coarse-some siderite
1100	No sample
1150	Sand, white and coarse to light brown fine sand
1300	White to grey coarse angular sand some siderite at base
1317	Sand, fine grey angular
1340	Lignite-black-brown
1405	Sand, brown angular coarse to fine, siderite
1420	Shale, grey-blue
1510	Sand, fine light grey to coarse angular yellow to grey with siderite
1520	Clay grey
1540	Sand, fine angular light grey
1550	Clay, grey to light brown
1630	Sand, light brown-lignite
1730	Sand, white-milky
1760	Lignite-sand, grey angular
1770	Clay-grey brown
1790	Sand, angular-grey
1850	Shale, light brown
1870	Lignite-black
1950	Shale, black-grey to sandy grey, glauconitic grey shale
1951	Lime, brown and sandy
2010	Shale, grey and sandy-asphalt show in cuttings at 1986
2110	Gumbo grey
2120	Sandy clay, asphalt
2273	Gumbo grey
2354	Shale black to gumbo grey
2410	Sand hard brown and limy to lime hard brown-Top Nacatoch
2466	Sandy lime rounded grains, grey and black shale (core)
2487	(Core) Shale, grey, sandy, calcareous
2535	Sand, white angular
2545	Shale, grey stained
2571	Sand, white angular-rounded-angular-asphalt stain
2582	Core-grey chalk
2590	Shale grey-black
2608	Shale black
2640	Sandy lime-stained
2690	Matrix-white sand and lime, grey shale-white sand-black shale
2712	Sand, white and black shale
2748	Shale, dark gray

LEE COUNTY—Continued

Bottom (Feet)	Formation
2749	Lime, brown hard
2775	Shale, grey and black w/strks
2806	Shale, black-grey
2850	Shale grey-sand strks 1′ grey shale, white sand
3008	Shale black (2′ of white sand at 2918-20)
3030	White and brown limey sand to grey black shale
3098	2′ sand, white, angular, shale, black grey sandy
3125	Coarse angular white sand, shale, black, grey and sandy
3166	2′ lime shale, black and sandy
3220	Shale grey and black
3235	White sand and brown sandy lime asphalt
3308	Shale, grey-black-stringer of white sand, black and gray, brown lime
3445	Shale, grey-black lime streaks
3510	2′ sand, white angular black shale-2′ white sand 3472′
3535	Sand, black shale
3555	Black shale
3580	Sand and shale-salt and pepper-few grains-Top of Penn-Atoka-Lower detrital stained with asphalt
3618	Shale, fractured
3620	Sand-hard, quartzitic white
3698	Black shale
3700	Sand, few vermillion grains
3755	Shale, black-strks of sand
3807	Black shale T.D. 3807

LEE COUNTY

Company: Ark.-Louisiana Pipeline Company Well No. 1
Lease: Emma McDonald, et al.
Location: 1500′ N and 370′ E of SW cor. Sec. 28-1N-4E
Total Depth: 3734 Elevation: 355
Began Drilling: June 8, 1934 Completed: August 3, 1934
Casing Record: Set 10″ @ 290′
Source of Information: Arkansas Board of Conservation.

Driller's Log of Well

Bottom (Feet)	Formation
20	Surface clay
40	Surface clay
100	Sand clay
150	Hard clay
187	Sand
235	Sand and gravel
290	Blue shale
480	Blue shale and shells
510	Lignite
521	Gummy shale and sand
528	Sand
567	Sticky shale
592	Shale
614	Sand
696	Sand and gravel
870	Sand, gravel, lignite
880	Sand
930	Sticky shale
965	Brown shale, sticky
980	Blue shale
1040	Sticky shale
1041	Rock
1295	Shale
1315	Sand, carrying water
1400	Sandy shale
1407	Blue shale and shells
1681	Blue shale and shells
1781	Sandy shale

LEE COUNTY—Continued

Bottom (Feet)	Formation
1800	Sticky blue shale
1802	Lime rock
1930	Sticky blue shale
1940	Sand and shells
1955	Sandy shale
2028	Sticky shale
2030	Rock
2054	Sticky shale
2055	Rock
2093	Sticky shale
2095	Rock
2097	Lime rock
2223	Sandy shale
2227	Sand
2286	Gumbo
2289	Rock
2330	Sandy shale
2331	Rock
2332	Rock
2353	Sand and sand rock
2373	Sandy shale
2395	Shale
2397	Sand rock
2461	Sticky shale
2483	Sticky shale
2516	Sticky shale
2527	Tough gummy shale
2530	Lignite and sandy shale
2625	Sticky shale
2628	Lime rock
2656	Sandy shale
2718	Sticky shale—SLM 2686′
2719	Lime shell
2726	Tough gummy shale
2760	Gummy shale
2762	Hard lime shell
2769	Sandy shale
2770	Lime shell
2797	Sticky shale
2807	Tough gummy shale
2826	Gummy shale
2858	Sticky blue shale
2859	Lime and shell
2876	Blue sticky shale
2935	Gummy shale
2948	Hard shale
2939	Lime shell
2974	Sticky shale
2977	Hard shale, sticky
3021	Hard shale and shell
3052	Hard gummy shale and shells
3057	Hard gummy shale
3219	Hard shale and lime shells
3237	Shale
3302	Sticky shale
3318	Chalk
3328	Black shale
3338	Black shale
3360	Sticky shale
3378	Black shale and boulders
3394	Broken chalk and shale
3400	Broken lime and sand
3403	Lime and sand
3408	Sand
3410	Lime rock
3413	Soft sand
3440	Soft sand
3441	Rock
3449	Soft sand
3455	Hard sand and lime
3457	Hard sandy lime rock
3467	Sandy shale
3468	Hard lime shell
3471	Broken lime and sandy shale
3490	Sandy shale and broken lime
3493	Sandy shale
3497	Gummy shale and lime strks.
3500	Gummy shale
3508	Sticky shale and broken lime
3517	Sandy shale and lime
3527	Sandy shale lime
3530	Sandy shale, hard
3533	Hard black sandy shale
3535	Sandy shale
3537	Hard lime shell
3552	Soft sand
3554	Hard lime shell
3556	Sand
3560	Sand
3610	Sandy shale

LEE COUNTY—Continued

Bottom (Feet)	Formation
3620	Green sandy shale
3650	Green sandy shale
3653	Sand - cored
3722	Sandy shale and hard strks of sand
3728	Sandy shale and hard sand
3734	Hard sand - Cored
	T. D. 3784

LONOKE COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†* 12	Ark. Oil Corp.	Scroggin	150'E 210'S NWc SW NW	17- 2S- 9W	2166	228	4- 4-21	8-10-21
8	Ark. Oil Corp.	Trout	SEc SE NW	16- 1S- 9W	2300	226 ±	6- 2-23	7-21-23
* 17	Cabot Drilling Co.	Benson No. 2	Town of Cabot	18- 4N- 9W	2670	290 ±	1938	1939
* 19	Carlisle Oil Development Co.	Walthour-Flake	1283'S 345'E NWc	10- 1N- 7W	2010	220 ±	1939	5-11-40
†* 7	Fletcher-Gates Development Co.	Fletcher, T. M.	527'W 228'N SEc NE NE	13- 1S- 8W	2265	217	4- ?-24	3-16-25
* 4	Fletcher-Gates Development Co.	Fletcher, T. M. No. 2	204'W 150'S NEc NW NW	27- 1N- 7W	2040	220		6-30-34
5	Fletcher-Gates Development Co.	Fletcher, T. M. No. 3	SEc NW NE	13- 1S- 8W	2242	217	4-24	4-11-32
21	Lunnon, Howell & Ford	City of Cabot	Cen NEc Lot 1, Blk 6	18- 4N- 9W	1374	290 ±	1-18-40	12-19-40
6	Lonoke County Development Co.	Fletcher	300'S 200' NWc SE NE	13- 1S- 8W	2932	205 ±		1926?
16	Russell, J. F.	Gunter	444'N 557'W SEc	17- 5N-10W	3200	320 ±		8- 3-42
‡ 9	Silver, Frank	Chambers, Jos.	200'N 280'E SWc NE NW	17- 2N- 7W	1980	227 ±	4-12-36	11- 4-39
13	Silver, Frank	Chambers No. 2	85'N 444'E SWc NE NW	17- 2N- 7W	1500	226 ±	7- 5-37	4-13-40
10	Straham, J. S.	Hardin, R. H.	330'S 330'W NEc NW NW	18- 2S- 7W	2285	228 ±	8-33	3-20-35
* 15	Eddington, J. W.	Anderson	Cen W½ NW NE	7- 4N- 9W	1500	288 ±	1939	4- 6-39
1	Thompson, D. F.	Copelin	660'S 240'E NWc E½ NW NW	6- 4N- 9W	2200	300 ±	1925	1926

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

LONOKE COUNTY

Company: Arkansas Oil Corporation — Well No. 1
Lease: Scroggin
Location: 210'S 150'E NW cor SW NW — Sec. 17-2S-9W
Total Depth: 2166 — Elevation: 228
Began Drilling: 4-4-21 — Completed: 8-10-21
Casing Record: 12" @ 187'; 8" 1676'; Bailed dry.
Source of Information: Arkansas Division of Geology

Driller's Log of Well

Bottom (Feet)	Formation
30	Surface
98	Quick sand
111	Gravel
160	Packed sand
470	Blue gumbo
488	Sand rock
510	Sandy shale
523	Sand and shells
538	Blue gumbo
543	Sand rock
548	Blue gumbo
558	Sandy shale-yellow and black with clay
580	Shale and boulders
590	Gumbo and boulders
632	Sand and boulders
634	Lime rock
643	White sand
708	Shale
710	Lime rock
721	Sandy lime
780	Gumbo
792	Gray sandy shale
867	Gray shale
917	Broken gray lime rock
942	Gumbo gray
973	Brown gumbo-broken rock
993	Broken lime rock and gray gumbo
1040	Hard shale and boulders
1042	Lime rock
1045	Lime rock (rat holing with 7-7/8 bit)
1060	Black shale
1110	Gumbo
1125	Gummy shale
1127	Sand rock
1187	Shale and rock and lime
1191	Hard rock
1223	Brown shale
1228	Hard rock
1256	Brown shale
1269	Hard rock, gumbo
1289	Hard lime
1317	Sand and lime and shale
1405	Sand and lime and mixed gumbo
1485	Hard sandy blue shale and gumbo
1511	Hard gumbo
1547	Blue gumbo
1562	Gumbo and shale
1586	Shells and blue gumbo
1640	Shells and blue gumbo with some shale
1676	No record
1704	Blue shale and shells
1784	Sand and blue shale
1843	Blue shale
1848	Hard rock
1921	Blue shale
1940	Blue gumbo
1974	Shale and sandy lime
2043	Blue shale and shells sand and lime
2090	Hard blue shale and sandy shells
2098	Blue shale
2100	Hard sand, lime
2106	Broken sand rock

LONOKE COUNTY—Continued

Bottom (Feet)	Formation
2108	White shale
2120	Blue shale
2121	Hard rock
2128	Quartz
2142	Quartz and shale
2166	Quartz and shale
	T.D. 2166

NOTE: Paleozoic at 1974 feet, George C. Branner.

LONOKE COUNTY

Company: Fletcher-Gates Development Company Well No. 1
Lease: T. M. Fletcher
Location: 228'N 527'W SE cor NE¼ NE¼ Sec. 13-1S-8W
Total Depth: 2265 Elevation: 217
Began Drilling: 4-?-24 Completed: log filed 3-16-25
Casing Record: 8¼" @ 2010'
Source of Information: Arkansas Division of Geology

Driller's Log of Well

Bottom (Feet)	Formation
5	Red clay
50	Sand
110	Water sand and gravel
120	Clay
160	Sand and gravel
166	Clay
167	Rock
200	Fine sand
280	Sand and boulders
350	Sandy shale
362	Blue gumbo
400	Sand and boulders
420	Gumbo
500	Shale and boulders
503	Sand rock
527	Gumbo
529	Sand rock
546	Sandy shale
548	Shell rock
554	Sandy shale
555	Rock
650	Sandy shale
670	Blue gumbo
710	Sand and boulders
725	Gumbo
727	Rock
730	Sandy shale
750	Gumbo
800	Gummy shale
830	Gumbo
868	Sandy shale
900	Gummy shale
930	Gumbo
952	Brown sand
1066	Sand and boulders
1068	Cap rock
1070	Lignite w/red clay
1140	Gumbo
1141	Sand rock
1150	Sandy shale
1160	Gumbo
1215	Gumbo
1225	Sandy shale
1425	Sand and boulders
1480	Sandy shale
1560	Blue gumbo
1561	Sand rock
1600	Gray sand and boulders
1684	Gypsum
1950	Hard shale

LONOKE COUNTY—Continued

Bottom (Feet)	Formation
2010	Gumbo
2030	Sandy shale
2106	Hard shale with sea shells
2164	Broken slate with lime
2180	Salt water sand
2215	Broken lime
2218	Rock
2230	Packed sand
2253	Hard shale
2255	Rock
2260	Hard shale
2265	Sand
	T.D. 2265

NOTE: Paleozoic at 2106', George C. Branner.

MISSISSIPPI COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†* 1	Benedum Trees	Mack, C. W.	330'N 330'E SWc NW SW	3-15N-12E	4535	263	9-10-38	3-18-39

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

MISSISSIPPI COUNTY

Company: Benedum Trees Oil Company Well No. 1
Lease: C. W. Mack
Location: 330'N 330'E SWc NW¼ SW¼ Sec. 3-15N-12E
Total Depth: 4535 Elevation: 263
Began Drilling: 9-10-38 Completed: 3-18-39
Casing Record: 10" @ 270'; 7" @ 2870' w/225 sacks cement, w/40 sacks.
Source of Information: Arkansas Oil & Gas Commission and Missouri Geological Survey

Driller's Log of Well

Bottom (Feet)	Formation	Bottom (Feet)	Formation
1360	Shells and shale	2538	Sand
1408	Water sand	2806	Shale and sand
2160	Shale and shells	3297	Paleozoic lime
2164	Lime	3300	Sand, water
2260	Sandy shale and sand	4480	Lime
2348	Shale and shells	4487	Sandy lime, water
2455	Lime and sand	4535	Lime
2524	Shale, sand and shells		

NOTE: The tops listed below were taken from Missouri Geological Survey log No. 5406 (insoluble residue log) by McCracken. Cable tools were used below 2895 feet.

	From	To
Cretaceous		2805
Jefferson City	2805	3150
Roubidoux	3150	3380
Un-named interval	3380	3395
Upper Gasconade	3395	3605
Lower Gasconade—Van Buren	3605	4300
Un-named interval	4300	4320
Potosi—Eminence	4320	4535 T.D.

MONROE COUNTY

	Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
	5	Burch, J. G.	Stinson, M. R.	330' 330'W SEc SE SW	27- 4N- 2W	2240	200 ±	6-23-35	1935
†*	6	Coker, J. H.	McClain	Cen NE NW	15- 4N- 2W	2527	200 ±	7- 9-37	8- 2-37
†*	3	Clarendon-Bowler	Jeffries	SWc SW SE	13- 1N- 3W	3008	175	1923	1923
*	1	Lockhart, J. R.	Abramson, R.	969'W 309' N SEc	19- 1S- 1W	3390	185	10- 1-35	2- 6-36
	2	Prairie O & G	Jeffery		13- 1N- 2W	3070	180 ±	3- 1-22	1-24-23
‡†*	7	Sohio Prod. Co.	Gann D.	Cen SW-SW SW	22- 3N- 3W	3164	170	7-29-43	8-15-43
*	4	Traffic Oil Co.	Clark	150'N 150'W SEc NE NE	23- 3N- 2W	2498	188	8- 1-23	11-19-23

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

MONROE COUNTY

Company: Sohio Production Company — Well No. 1
Lease: Gann, Dewell
Location: Center SW¼ SW¼ SW¼ — Sec. 22-3N-3W
Total Depth: 3164 — Elevation: 170
Began Drilling: 7-29-43 — Completed: 8-15-43
Casing Record: Set 10-3/4" @ 238' w/250 sks.
Source of Information: Arkansas Oil & Gas Commission

Driller's Log of Well

Bottom (Feet)	Formation
15	Surface clay
110	Sand
258	Shale
318	Blue clay
350	Shale
472	Sand
500	Shale
520	Soft sand
560	Hard sand
650	Soft sand
695	Sand
790	Shale sand and shells
800	Sand
1040	Hard and soft sand
1053	Sand
1125	Shale
1240	Chalky shale
1265	Sand
1450	Midway and shells
1465	Sandy shale
1567	Shale streaks lime
1630	Sandy lime and shale
1815	Sticky shale
1910	Black shale
1920	Shale and shells
1940	Shale
1970	Black shale
2010	Sandy shale
2080	Black shale lime fossils
2103	Sticky shale and shells
2107	Sand (porous)
2135	Sticky shale and ash
2170	Shale
2187	Chalk
2210	Broken sandy lime
2215	Sand
2233	Soft gray sand
2253	Cored
2273	Sand and chalk—cored
2276	Sand
2298	Shale
2350	Shale and chalk
2370	Lime
2448	Broken lime and shale
2473	Chalk and shale
2559	Shale
2588	Shale and shells
2643	Fossils and pyrites
2650	Shale and lime
2660	Iron pyrites and shale
2680	Hard lime streaks sandy and pyrites
2692	Hard sand and shale
2718	Hard shale and streaks lime
2742	Hard bks. shale
2810	Slatey shale
2841	Sticky shale
2887	Black shale
2973	Shale broken
3018	Shale and lime shells
3047	Hard black shale
3085	Shells and shale
3115	Hard shale lime shells
3130	Shale
3150	?
3164	Hard shale
	Total Depth

NOTE: Tops by C. A. Renfree, Arkansas Division of Geology, from electric log:

MONROE COUNTY—Continued

	From	To
Wilcox	905(?)	1440
Midway (Porter's Creek)	1440	2100
Midway (Clayton)	2100	2120
Arkadelphia	2120	2170
Nacatoch	2170	2420
Saratoga-Marlbrook-(Annona?)	2420	2570
Basal Sandstone (Ozan?)	2570	2640
Paleozoic (Hard black pyritic shale)	2640	3164 T.D.

The sandstone at base of Cretaceous and overlying the Paleozoic floor has appearance of a detrital zone. May be lower Marlbrook or Annona in age in this particular well.

MONROE COUNTY

Company: Clarendon Bowler Well and Construction Company Well No. 1
Lease: Jeffries
Location: SWc SW¼ SE¼ Sec. 13-1N-3W
Total Depth: 3008 Elevation: 175
Began Drilling: 1923 Completed: 1923
Source of Information: Arkansas Division of Geology

Driller's Log of Well

Bottom (Feet)	Formation	Bottom (Feet)	Formation
7	Soil and hardpan	316	Blue clay
88	Gray quicksand	328	Shale, light
96	Sand and gravel	344	Blue clay
108	Sand mixed with blue clay	352	Blue clay and sand
117	Sand mixed with blue clay	360	Blue clay
120	Blue clay	369	Pack sand
124	Clay and boulders	370	Shale, light
128	Coarse sand	375	Pack sand
141	Blue clay	388	Shale, light
142	Rock	424	Blue clay
143½	Blue clay	429	Gumbo
144	Rock	432	Sandy clay
176	Blue clay	435	Gumbo
198	Sand	463	Pack sand
203	Blue clay	467	Gumbo
229	Blue clay mixed with sand	473	Coarse sand
241	Blue clay	485	Gravel and boulders
244	Blue clay and boulders	487	Hard shale
246	Quicksand	493	Sand and boulders
252	Coarse sand	494	Conglomerate rock
265	Pack sand	554	Sand and boulders (artesian water flow)
277	Blue clay		
302	Shale, light	564	Blue clay and boulders

MONROE COUNTY—Continued

Bottom (Feet)	Formation
629	Sand and gravel
630	Conglomerate rock
633	Sand (water)
634	Conglomerate rock
637	Blue clay
640	Sand (water)
641	Conglomerate rock
656	Sand (water)
667	Sand coarse gravel
668	Conglomerate rock
686	Coarse gravel
687	Conglomerate rock
714	Sand and boulders
719	Gumbo and boulders
730	Sand and boulders
741	Boulders
753	Sand and boulders
763	Gumbo and boulders
780	Sandy chocolate clay
782	Conglomerate rock
785	Sandy chocolate clay and boulders
814	Sand (core)
817	Sand and gumbo
821	Sandstone and boulders
835	Shale and clay
873	Sandstone, soft (water)
874	Conglomerate rock
876	Sandstone, soft
877	Conglomerate rock
882	Sand (water)
887	Sand and gravel (water)
895	Blue clay and boulders
896	Conglomerate rock
930	Sandy chocolate clay
1028	Hard pack sand
1031	Sandy chocolate clay
1054	Hard pack sand
1091	Pack sand and gravel
1092	Conglomerate rock
1093	Pack sand
1095	Conglomerate rock
1097	Sand and boulders
1098	Conglomerate rock
1102	Sandy chocolate clay
1145	Pack sand and boulders
1148	Sandy chocolate clay
1159	Pack sand
1161	Sandy chocolate clay and boulders
1182	Pack sand and boulders
1186	Sandstone
1188	Pack sand and boulders
1191	Blue clay and boulders
1193	Sandy chocolate clay and boulders
1194	Sandstone
1195	Pack sand
1196	Sandstone
1197	Pack sand
1198	Clay
1201	Sandstone
1222	Sand and boulders
1227	Pack sand
1228	Sandstone
1229	Clay
1234	Packed sand
1242	Clay and boulders
1252	Sandstone and boulders
1260	Sand and boulders
1263	Coarse sand (core)
1267	Sand
1269	Shale and sand
1295	Coarse sand
1298	Chocolate clay
1301	Sticky shale
1328	Gray sand
1330	Rock
1335	Hard sand
1354	Sand and gravel
1355	Sand rock
1385	Gray sand
1392	Light clay
1398	Light sand
1400	Red sand
1406	Sand
1416	Gumbo
1422	Fine sand
1423	Sand rock
1433	Blue clay

MONROE COUNTY—Continued

Bottom (Feet)	Formation
1434	Hard rock
1446	Light shale
1454	Light shale
1546	Shale and gumbo
1573	Sandy shale
1576	Gumbo
1577	Rock
1580	Sand rock
1602	Gumbo
1617	Soft sand
1619	Lime rock
1633	Gumbo and shale
1641	Sandy shale
1655	Light blue clay
1661	Blue clay
1664	Hard rock
1665	Rock
1667	Hard rock
1676	Light shale
1685	Sand rock
1687	Lime
1690	Black shale
1700	Lime sand streaks
1723	Shale
1724	Shell and rock
1729	Sandy lime
1731	Light chalk (clay)
1732	Sand
1766	Hard sandy shale
1772	Hard lime
1773	Shell rock
1781	Soft lime rock
1798	Hard packed sand
1819	Gumbo
1838	Sand rock
1847	Gumbo
1849	Lignite
1934	Sandy shale
1935	Lime rock
1942	Soft sandy shale
1952	Gumbo
1960	Shale
1961	Rock
1981	Shale
1983	Rock
1991	Sandy shale
1992	Rock
1994	Sand rock
2005	Gumbo
2007	Lime shale
2016	Hard sandy shale
2026	Sandy shale
2047	Gumbo
2048	Rock
2060	Sandy shale
2067	Tough gumbo
2068	Rock
2071	Rock
2080	Sandy shale
2088	Gumbo
2094	Sandy shale
2109	Gumbo
2115	Hard sandy shale
2118	Hard sandy shale
2120	Hard flint rock
2123	Soft shale
2125	Dark hard shale
2127	Sand rock
2148	Hard sandy shale
2164	Gumbo
2190	Hard shale
2232	Gumbo and shale
2233	Gumbo
2234	Rock
2259	Sandy shale
2265	Hard shale
2304	Shale
2309	Gumbo
2328	Hard shale
2332	Sandy shale
2339	Black shale
2347	Sticky shale
2348	Flint rock
2350	Coarse sand
2358	Black shale
2359	Rock
2362	Black shale
2364	Rock
2375	Lime streaks and shale
2414	Hard shale

MONROE COUNTY—Continued

Bottom (Feet)	Formation
2481	Shale
2482	Gumbo
2495	Shale and gumbo
2516	Hard shale
2535	Shale
2540	Hard shale and rock
2547	Gumbo and shale
2632	Hard shale
2672	Hard shale
2674	Hard rock
2690	Lime and sand (core)
2692	Hard sand
2696	Soft sandy lime (core)
2699	Lime rock
2704	Lime sand and pyrites
2791	Sandy shale
2797	Rock
2807	Sandy shale
2811	Sand rock
2854	Sandy shale
2856	Lime
2864	Shale
2866	Rock
2884	Shale
3008	Sandy shale

MONROE COUNTY

Company: James H. Coker — Well No. 1
Lease: McClain
Location: Center NE¼ NW¼ — Sec. 15-4N-2W
Total Depth: 2527 — Elevation: 200
Began Drilling: July 9, 1937 — Completed: August 2, 1937
Casing Record: 10" @ 174'
Source of Information: Arkansas Oil & Gas Commission

Driller's Log of Well

Bottom (Feet)	Formation
1	Soil
12	Surface clay
60	Water sand and gravel
75	Water sand and gravel
95	Blue sticky shale
142	Sand and gravel
146	Sand rock
171	Packed sand and gravel
180	Blue gumbo—set 10" csg. at 174'
210	Blue gumbo
254	Hard and soft streaks
261	Sticky shale
436	Hard packed sand
471	Sand and gravel
757	Shale
782	Sticky lime
799	Water sand and shale (cored)
853	Sand and gravel
870	Brown lignitic clay
965	Sand and gravel
980	Gumbo
1058	Coarse water sand
1080	Gumbo
1106	Gummy shale and boulders
1112	Sand and boulders
1114	Hard rock
	Wilcox Midway Contact
1119	Lignite and sandy shale (cored)
1132	Lignite and shale
1185	Sticky shale
1197	Hard shale and boulders
1216	Broken shale
1360	Sandy shale
1392	Gummy shale and boulders

MONROE COUNTY—Continued

Bottom (Feet)	Formation
1393	Rock
1405	Gummy shale
1427	Gummy shale
1460	Broken shale
1474	Gummy shale
1475	Rock
1542	Sticky shale and boulders
1550	Hard sandy shale
1630	Dark gray sticky shale
1631	Boulder
1860	Gummy shale and boulders
2023	Arkadelphia clay
2024	Sand (cored)
2028	Arkadelphia clay (cored)
2097	Clay gumbo
2100	Cap rock (Nacatoch) cored
2105	Sand salt water (cored)
2109	Sandy lime, sand, pyrites of iron (cored)
2137	Sand sandy lime, lime
2144	Hard solid lime
2154	Lime rock (cored)
2158	Salt water sand (cored)
2180	Salt water shale (cored)
2181	Rock
2183	Salt water sand (cored)
2200	Shale
2202	Lime
2205	Sand (cored)
2230	Broken lime
2280	Shale and streaks of lime
2457	Shale and streaks of lime
2484	Shale and lime
2485	Hard lime
2524	Marl and chalk
2527	Quartzite (Paleozoic?)

Hole filled with heavy mud and three sacks cement placed in the top of surface casing.

PHILLIPS COUNTY

	Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
	4	Eastern Ark. O & G Co.	Richardson		28- 4S- 2E	1508	160 ±		
†*	3	Eastern Ark. O & G Co.	Richardson		20- 3S- 3E	2780	170 ±	1918	1918
†*	5	Liming, J. C.	Watkins, R. A.	680'S 550'E NWc NW SW	7- 1S- 3E	3440	198 ±	1942	9-23-43
†*	6	McAlester Fuel Co. & H. Mack-Cox	Welch, E. W.	SW SW SW	24- 4S- 2E	4939	174-DF	12-31-47	1-15-48
‡*	7	McAlester Fuel Co.	Howe Lmbr. Co. A-1	SE SW NW	27- 3S- 2E	4574	171-DF	8- 1-48	8-17-48
	1	Phillips Oil & Gas Co.	Richards		10- 1S- 4E	1500	(?)	1920	1920

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

PHILLIPS COUNTY

Company: John C. Liming (G. C. Dew et al) Well No. 1
Lease: R. A. Watkins
Location: 680'S 550'E of NWc NW SW Sec. 7-1S-3E
Total Depth: 3440 Elevation: 198'
Began Drilling: 1942 Completed: 9-23-43
Casing Record: None
Source of Information: Missouri Geological Survey Log No. 8404

Log of Well

Bottom (Feet)	Formation
200	Coarse sandstone and sand, igneous rock chips, reworked oolitic chert
340	Medium to fine-grained angular sandstone
360	Dark gray shale, sandstone as above, some brown shale
400	Light clay, shale as above
440	Light gray clay, shale as above
540	Crackled white sandstone, some sub-rounded sandstone at base
660	No samples
670	Rounded to angular sandstone and sand with worn igneous pebbles
700	As above plus quartz pebbles
770	As above
780	Coarse to rounded, angular quartz sandstone, trace argillaceous sand
840	Sand as above and argillaceous sand and gray shale
850	Coarse to angular, sub-rounded and fine angular sandstone
880	As above, little gray shale
900	As above, igneous pebbles
920	Gray, sandy shale (50% shale)
970	R&L and angular sandstone, some gray shale
1090	Fine sandstone, dark gray and light gray shale
1120	As above, sandy shale
1130	As above, fossil fragment
1150	Coarse to fine angular to rounded sandstone, gray shale
1190	As above, trace red sandstone (siderite?)
1200	As above, fossil fragments, tan quartzose
1250	Coarse rounded to angular sandstone, igneous pebbles
1260	As above, trace brown shale
1300	Coarse rounded to angular sandstone
1320	Sandstone as above plus gray shale
1360	Coarse rounded to angular sandstone
1380	Fine to medium sandstone, gray and brown shale
1400	Medium sandstone, quartz pebbles
1420	Fine to medium sandstone
1500	Fine to medium sandstone, trace brown shale
1560	Medium sandstone
1600	Medium sandstone, gray shale
1610	Sandstone and dark gray flaky clay, glauconite
1780	Sandstone and dark gray flaky clay, fossils all glauconitic
1980	Medium sandstone, dark gray flaky clay, fossils (cavings?)
2050	Brown, medium-grained sandstone, glauconite

PHILLIPS COUNTY—Continued

Bottom (Feet)	Formation
2080	Brown, medium-grained sandstone, glauconite, gray shale
2180	Sandstone as above, some black flaky clay
	Tentative top MIDWAY at 2180 (Section from 2180 to 2500 is fossiliferous and marine).
2200	Sandstone, dark gray flaky clay, trace marl
2250	Sandstone as above, gray flaky shale, fossils, marl
2320	As above, polished pebbles
2330	As above, high spiral gastropod
2350	As above, brachiopod
2360	As above, fossils
2400	Gray sandy shale, marl, brown shale, glauconite
2430	As above, brachiopod fragments
2500	Gray shale, marl, fossils
2550	Coarse sandstone, trace glauconite, polished arkosic pebbles
2580	Coarse sandstone
2600	Dark gray-green splintery shale
2620	As above and coarse sandstone
2640	As above, tan chert
2700	Gray-green splintery shale, coarse sandstone (greater percentage of shale)
2740	Coarse sandstone, gray-green shale, tan chert
2800	Dark gray to black micaceous shale
2810	Black shale
2820	Dark gray to black micaceous shale
2950	Sandstone, dark gray to black splintery shale
3110	Dark splintery shale, NODOSARIA at base
	Top CLAYTON limestone (?) at 3110
3120	Splintery shale, phosphatic lime
3150	As above, siderite
3240	Gray splintery shale, marly limestone, rod-like pyrite, glauconite
	Tentative top ARKADELPHIA 3240
3290	Gray shale, trace glauconite
3360	Trace marl, gray shale, glauconite
3385	No sample
3400	Marl, gray shale, trace sand
3440	No samples
	T.D. 3440

PHILLIPS COUNTY

Company: McAlister Fuel Co. and H. Mack Cox Well No. 1
Lease: E. W. Welch
Location: Center SW¼ SW¼ SW¼ Sec. 24-4S-2E
Total Depth: 4939 Elevation: 174 DF
Began Drilling: 12-31-47 Completed: 1-15-48
Casing Record: 9 5/8" @ 629' w/300 sacks
Source of Information: Arkansas Oil & Gas Commission

Driller's Log of Well

Bottom (Feet)	Formation
168	Surface clay, sand and shale
750	Sand and shale

PHILLIPS COUNTY—Continued

Bottom (Feet)	Formation
878	Shale
925	Sand
1710	Sand, shale and chalk
2022	Shale, sand and chalk
2046	Sand
2135	Shale and chalk
2430	Sand, shale and chalk
2559	Shale and sandy shale
2594	Sand and sandy shale
3634	Shale and streaks of sand
3800	Sand and shale
4414	Shale and lime
4436	Sand
4476	Shale
4522	Sand and shale
4939	Anhydrite and lime

NOTE: The following geologic tops by C. A. Renfroe from the electric log are tentative.

	From	To
Claiborne and Younger		1647
Wilcox Group	1647	2914
Midway Group (Porters Creek)	2914	3493
Midway Group (Clayton)	3493	3583
Arkadelphia	3583	3633
Nacatoch	3633	3870
Saratoga-Marlbrook	3870	4310
Annona ?	4310	4408
Ozan (may be older)	4408	4522
Paleozoic (Pennsylvanian)	4522	4939 T.D.

Following description of sidewall cores from Riley reproduction of Schlumberger log:

(1) 2029′ Very fine-grained, soft, unconsolidated, gray water sand, no odor, no ether cut.

(2) 2564′ Very fine-grained, soft, unconsolidated, dark green, glauconitic or chloritic water sand, no odor, no ether cut.

(3) 3591′ Very very fine-grained, dark green, limy slightly gummy sand, no odor, no ether cut.

(4) 3640′ Fairly hard, lime cemented, very fine-grained, green sand, no odor, no ether cut.

(5) 3646′ Very fine-grained, soft greenish gray sand, no odor, no ether cut.

(6) 3655′ Very fine-grained, gummy, soft, green sand, no odor, no ether cut.

(7) 3723′ Fairly firm, very very fine-grained, lime cemented, greenish gray sand, no odor, no ether cut.

(8) 3760′ Very very fine-grained, slightly gummy, soft, green sand, no odor, no ether cut.

(9) 4415′ Very very fine-grained, slightly micaceous, glauconitic or chloritic, ashy green sand, no odor, no ether cut; sample contains quite a bit of talc.

(10) 4429′ Very very fine-grained, very soft, micaceous light green sand, no odor, no ether cut.

PHILLIPS COUNTY—Continued

(11) 4479' Hard, lime cemented, very very fine-grained, light green sand, no odor, no ether cut.
(12) 4498' Very very fine-grained, soft light green sand, approximately 30% lignite present, no odor, no ether cut.
(13) 4508' Very very fine-grained, soft, silty, light green sand, no odor, no ether cut.
(14) 4700' Bituminous coal, no odor, no ether cut.
(15) 4891' Ditto.

PHILLIPS COUNTY

Company: Eastern Arkansas Oil Company Well No. 1
Lease: Richardson
Location: Sec. 20-3S-3E Elevation: 170
Total Depth: 2780
Began Drilling: 1918 Completed: 1918
Casing Record: Set 6" @ 2130
Source of Information: Log received from J. T. Robertson, Marianna, 10-22-20. Located near Lake View.

Driller's Log of Well

Bottom (Feet)	Formation
15	Sandy loam
35	Quick sand, and water at 35 feet
38	White clay
160	Coarse water sand
162	Hard sand rock
230	Boulders and sandy shale
240	Hard shale
535	Sand and shale
545	Gumbo
650	Sandy shale
670	Gypsum
735	Sand and gumbo
875	White sand
885	Gumbo
950	Sand
1000	Boulders and shale
1114	Shale
1118	Rock - hard
1320	Hard sand shale
1640	Boulders and shale
1670	Hard gumbo
1760	Sand with Artesian Water
1940	Hard shale
1945	Hard sand rock
2009	Sand and boulders
2075	Hard shale streaked with sand
2115	Sand rock
2137	Gumbo
	Set 6" pipe and cemented at 2130 feet. Drilled out plug at 2145 feet and bailed: showed lots of water.
2203	Hard sand
2300	Shale and sand
2615	Hard sand and boulders
2780	Hard white sand and showing lots of water from 2700: T. D. 2780

POINSETT COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
* 1	Aarnes, H. W.	Lemmon & Kahn	330'S, 330'W NEc NE SE	23-10N- 6E	3005	215	11-13-27	3-30-28
* 8	Rockwell Dev. Co.	Smith, W. A. No. 2	52'S, 190E Cen NE NE	13-11N- 3E	1922	264	12- 7-35	1-22-36
†* 7	Rockwell Dev. Co.	Smith, W. A.	10 chains from Cen E line NE NE	13-11N- 3E	2278	280	7-25-35	11-15-35
†* 6	Scott, J. F.	Nelson No. 2A		12-11N- 3E	3723	275	1921	1921
†* 10	Scott, J. F.	Nelson No. 3		15-11N- 3E	2082	242 ±	1921	1921
9	Scott O & G Co.	Cole		15-11N- 3E	3758	287	1924	1925
3	Scott O & G Co.	Menton	SE - SE	1-11N- 3E	2274	263 ±	1923	1923
* 4	Scott O & G Co.	Nelson No. 1	NW - NW	12-11N- 3E	2263	287	3-14-22	1923
2	Wilson & Barman	Stratton & Warren	NE - SE	23-10N- 6E	2072	213 ±	1922	1922

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

POINSETT COUNTY

Company: J. F. Scott, Trustee — Well No. 3
Lease: Nelson
Location: Sec. 15-11N-3E
Total Depth: 2032 — Elevation: 242 (Topo. Map)
Began Drilling: 1921 — Completed: 1921
Source of Information: Arkansas Division of Geology, from C. E. Harris.

Log of Well

Interval	Formation
1385-1496	Fragments of dark gray, hard, fine-grained, non-calcareous carbonaceous shale; quartz grains, siderite, carbonized wood, and pyrite noted. The lithology of the dark gray shale suggests the MIDWAY.
1475-1530	Sample same as above
1530-1540	Sample same as above
1578-1584	Dark gray, fairly hard, fine grained, non-calcareous, carbonaceous shale; quartz grains, siderite, and a few pieces of carbonized wood in the sample. Age, MIDWAY.
1584-1585	Sample same as above
1585-1644	Same as above; also a few grains of glauconite, *Globigerina sp.*, small *Dentalina sp.* and *Virgulina sp.* in the washed residue.
1697-1705	Greenish gray, hard, fine grained, slightly micaceous, non-calcareous shale; light greenish gray, fairly soft, medium grained, calcareous, glauconite sandstone; quartz grains pyrite, glauconite. *Nodosaria sp.*, *Bulimina sp.*, *Bolivina sp.*, *Lenticulina sp.*, *Epistomina sp.*, and *Globigerina sp.* in the washed residue. Age, MIDWAY.
1742-1755	Fragments of gray, fairly hard, non-calcareous shale; quartz grains; light green, soft, fine-grained, calcareous, glauconitic sandstone; megascopic shell fragments, siderite, glauconite and lignite in the washed residue.
1762-1770	The residue consists of quartz grains; fragments of gray, medium-grained, calcareous shale; gray, fairly hard, fine-grained, non-calcareous shale; and a few pieces of carbonized wood.
1780-1785	Quartz grains, a few fragments of gray shale; light gray, soft, coarse-grained, calcareous sandstone; pyrite, siderite and a few pieces of megascopic shells in the washed residue.
1785-1794	Sample same as above.
1814-1828	Quartz grains; fragments of gray, hard, fine-grained, non-calcareous shale; light gray, fairly soft, coarse-grained calcareous sandstone, pyrite and a few white tests of *Bairdia sp.* in the washed residue. Age, MIDWAY.
1882-1892	Quartz grains, gray shale, white, fairly hard, crystalline, glauconitic, fossiliferous limestone, pieces of megascopic shells; ara-

POINSETT COUNTY—Continued

Interval	Formation
	gonite, pyrite and glauconite in the residue. Age, probably MONROE GAS ROCK.
	NOTE: The Lithology of the white limestone in this sample suggests the Monroe Gas Rock.
1911-1933	Sample same as above
1977-1989	This sample consists of quartz grains, gray shale; white, crystalline, glauconitic limestone; siderite and pyrite.
1994-2000	Quartz grains, gray shale, white limestone; pieces of light gray, medium hard, fine and medium-grained, calcareous, glauconitic sandstone; glauconite, pyrite, a large specimen of *Robulus sp.* and *Nodosaria* in the washed residue.
2008-2025	The washed residue consists of fragments of dark gray shale; quartz grains; light gray, medium hard, fine-grained, calcareous, glauconitic sandstone; pyrite and glauconite.
2025-2032	Quartz grains, gray shale; white, fairly soft crystalline, very arenaceous, slightly fossiliferous limestone; light gray, medium-grained, glauconitic sandstone; brown chert siderite, glauconite, megascopic shell fragments.
	NOTE: A small Orbitoid was noted in a fragment of the above described white limestone. This limestone probably is Monroe Gas Rock.
	T.D. 2032

POINSETT COUNTY

Company: J. F. Scott, Trustee — Well No. 2-A
Lease: Nelson
Location: Near Harrisburg — Sec. 12-11N-3E
Total Depth: 3723 — Elevation: 275
Began Drilling: 1921 — Completed: 1921
Source of Information: Arkansas Division of Geology, from C. E. Harris.

Log of Well

Interval	Formation
210- 220	Fragments of brown, medium-grained, arenaceous, very carbonaceous clay; vari-colored quartz grains; white and brown chert, lignite and chlorite in this sample.
220- 255	Vari-colored small pebbles and grains of quartz and igneous rocks; also white and brown chert in the washed residue.
255- 335	Large rounded grains of quartz and a few fragments of brown chert noted.
335- 350	Brown, coarse-grained, arenaceous, non-calcareous,

POINSETT COUNTY—Continued

Interval	Formation
	carbonaceous clay, vari-colored quartz, lignite, carbonized wood, and white chert noted.
350- 360	Large, colorless and translucent grains of quartz in the washed residue.
360- 368	Fragments of brown, medium-grained, arenaceous, calcareous clay, quartz grains, lignite, white and brown chert, chlorite and a a few pieces of carbonized wood.
455- 525	Large grains of colorless and translucent quartz and a few pieces of brown chert in the washed residue.
525- 536	Quartz grains, brown chert and siderite in the washed residue.
536- 545	Brown, medium-grained, arenaceous, non-calcareous clay; white soft, medium-grained, non - calcareous material (probably volcanic ash), quartz grains, brown chert and carbonized wood in this sample.
555- 571	Brown, medium-grained, arenaceous, non-calcareous, micaceous clay; quartz grains and pieces of lignite in the washed residue. AGE: Probably WILCOX.
587- 600	Brown, medium-grained, non-calcareous, very carbonaceous clay. The washed residue consists of grains of quartz, brown chert and a few grains of glauconite.
600- 612	Bentonite (?) white, soft, fine-textured arenaceous, non-calcareous, chalky. Quartz grains, fragments of lignite and crystals of pyrite in the washed residue.
612- 640	Fragments of brownish, fine-grained, non-calcareous clay; white bentonite (?) grains and pebbles of quartz and chert, lignite and carbonized wood.
660- 685	Light gray, fine-grained, non-calcareous clay; lignite and quartz grains noted.
680- 690	Quartz grains, lignite, white chert and a few fragments of magnetite in the washed residue.
690- 700	Brown, fine - grained, non-calcareous, carbonaceous clay; quartz grains and lignite noted.
705- 735	Same as above; also fragments of light gray, soft, medium and fine-grained, silty, non-calcareous, carbonaceous sand.
735- 745	Clay-gray, fine-grained, micaceous, non-calcareous, carbonaceous quartz grains, lignite and a few grains of glauconite in the washed residue.
745- 765	Same as above; also brownish, carbonaceous clay, pieces of a dark green igneous rock, magnetite and hematite.
766- 786	The washed residue consists of vari-colored grains of quartz; brown, fine-grained, non - calcareous, carbonaceous clay; and pieces of magnetite.

POINSETT COUNTY—Continued

Interval	Formation
786- 797	Fragments of brownish gray, coarsed-grained, arenaceous, non-calcareous clay, quartz grains, brown chert, chlorite, magnetite, glauconite and biotite.
797- 799	The washed residue consists of vari-colored quartz, light gray and brown clay, magnetite and a few grains of glauconite. AGE: Probably WILCOX.
799- 820	The washed residue consists of quartz grains; brown, medium - grained, non - calcareous, carbonaceous, carbonaceous clay; lignite, carbonized wood, light gray, coarse-grained, non-calcareous clay and grains of chlorite.
820- 840	Quartz grains, pieces of light gray, has tint, soft medium-grained, non - calcareous clay; lignite and a few nodules of siderite in the washed residue.
840- 860	Sample same as above.
860- 880	Brown, medium-grained, non - calcareous, carbonaceous clay; light brownish gray, non-calcareous clay; quartz grains, lignite, and fragments of gypsum in the washed residue.
892- 932	Vari-colored quartz; brown, carbonaceous non-calcareous clay; lignite, siderite, brown and white chert, white earthy limestone and a few small fragments of a dark green, igneous material.
938-1025	This sample consists of quartz grains, fragments of brown gray and yellowish, non-calcareous clay and a few nodules of siderite in the washed residue.
1025-1063	Brown, fine-grained, non-calcareous, carbonaceous clay; quartz grains, lignite and pieces of gypsum in the washed residue.
1077-1100	This sample consists of quartz grains, brown, carbonaceous clay, lignite, hematite and magnetite.
1100-1120	Quartz grains, fragments of brown, carbonaceous clay; yellowish, non-calcareous clay, lignite and siderite in the washed residue.
1120-1129	Brown, medium-grained, very carbonaceous, non-calcareous clay; quartz grains; fragments of gray, fairly soft, fine-grained, micaceous, non-calcareous shale, white, crystalline limestone; carbonized wood, glauconite, siderite, a minute *Globigerina sp.* and *Anomalina sp.* in the washed residue. NOTE: The lithology of the above described gray shale suggests the MIDWAY.
1129-1138	Quartz grains, brown, carbonaceous shale; yellowish, medium-grained, non-calcareous clay, white, crystalline limestone, siderite and chlorite in the washed residue.
1138-1158	Sample same as above.
1152-1163	Brownish gray, coarse-grained, micaceous, non-calcareous, carbonaceous clay, quartz grains, lignite,

POINSETT COUNTY—Continued

Interval	Formation
	white crystalline limestone and a few nodules of siderite.
1163-1164	Quartz grains, fragments of light gray, has yellowish tint, medium-grained, non-calcareous, carbonaceous shale; brown, carbonaceous, non-calcareous shale; carbonized wood and siderite in the washed residue.
1164-1171	Vari-colored quartz, fragments of gray shale; siderite, carbonized wood, siderite, and magnetite in the washed residue.
1171-1193	Quartz grains yellowish clay; brown, carbonaceous clay; siderite and lignite in the washed residue.
1193-1230	Medium dark gray, fine-grained, micaceous, non-calcareous shale. AGE: MIDWAY lithology.
1230-1319	Shale-dark gray, medium hard, fine-grained, non-calcareous, Age: MIDWAY lithology.
1319-1320	Quartz grains; fragments of brown, carbonaceous, non-calcareous clay; light gray, medium-grained, non-calcareous slightly micaceous clay; lignite, siderite and a fragment of green, igneous rock.
1320-1330	Quartz grains, fragments of dark gray, fairly hard, medium-grained, non-calcareous, slightly carbonaceous shale and siderite noted. NOTE: The above described gray shale suggests the Midway.
1330-1366	The washed residue consists of quartz grains, siderite, lignite, and a few pieces of carbonized wood.
1419-1429	Quartz grains; fragments of gray shale; siderite and light gray, fairly hard, coarse-grained, non-calcareous shale.
1429-1439	Sample same as above; also a few fragments of lignite.
1439-1504	Fragments of dark gray, medium hard, fine-grained, non-calcareous, micaceous; grains of quartz, siderite, and lignite in the washed residue.
1504-1533	Gray shale, quartz grains, siderite, forams, pyrite and carbonized wood. *Globigerina sp.*, *Cytherella sp.*, *Dentalina sp.*, *Bulimina sp.*, *Lagena spinosa*, *Eponides sp.*, *Nonion sp.* and *Anomalina sp.* noted. AGE: MIDWAY.
1533-1545	Quartz grains, gray shale, brown chert; siderite and lignite in the washed residue.
1545-1546	Same as above; a few fragments of volcanic glass and spherical gas bubbles noted.
1565-1575	Quartz grains, siderite; gray, fine-grained, non-calcareous carbonaceous shale; lignite and carbonized wood in the washed residue.
1575-1607	Dark gray, hard, medium grained, non-calcareous shale; quartz grains, siderite, and pyrite.

POINSETT COUNTY—Continued

Interval	Formation
1607-1627	Quartz grains, siderite, gray shale, white chert, lignite, pyrite and hematite.
1627-1628	Siderite, lignite and brown shale noted.
1628-1630	Gray shale, quartz grains, siderite, hematite and pyrite.
1630-1698	Dark gray shale, siderite, glauconite, brown chert, and a few forams.
1735-1750	Dark gray shale, siderite, quartz grains, lignite and pyrite.
1768-1775	Fragments of dark gray shale; quartz grains, siderite, and pieces of light gray, medium-grained, fairly hard, calcareous sandstone.
1775-1785	Quartz grains; fragments of light gray, fairly hard, medium-grained, calcareous glauconite sandstone; gray shale, brown chert, siderite and pyrite.
1785-1786	Fragments of brown chert.
1786-1793	Fragments of white Monroe, soft, fine-textured, arenaceous limestone quartz grains and a few pieces of light gray, fairly soft, medium-grained, very calcareous sandstone.
1796-1800	Brown, soft, coarse textured, very arenaceous limestone; quartz grains; white, hard, crystalline, slightly glauconitic limestone; and grains of glauconite in the washed residue. AGE: Probably MONROE GAS ROCK.
1800-1810	Quartz grains, gray shale, siderite, lignite and a few grains of glauconite.
1853-1858	Fragments of greenish, has brown tint, coarse-grained, arenaceous calcareous clay; quartz grains; white, fairly hard, fine - textured arenaceous limestone and a few fragments of siderite.
1867-1874	Quartz grains; white, hard crystalline limestone; light gray, soft, coarse-grained, calcareous, glauconitic sandstone, gray shale, and siderite.
1876-1886	Gray, coarse - grained, calcareous clay; quartz grains; white, soft fine textured, arenaceous limestone and a few grains of glauconite.
1896-1907	Quartz grains; white limestone; light gray, soft, medium-grained calcareous sandstone; gray shale, aragonite, glauconite, and a white test of *Bairia sp.* AGE: MONROE GAS ROCK.
1907-1911	White, soft, fine-textured, arenaceous limestone; quartz grains, and fragments of white crystalline limestone.
1911-1940	Quartz grains, gray shale; white, crystalline limestone; light gray, calcareous sandstone and fragments of siderite in the sample.
1940-1965	Sample same as above.
1965-1971	Quartz grains, gray shale; light gray, fairly hard, medium-grained, cal-

POINSETT COUNTY—Continued

Interval	Formation
	careous sandstone and a few grains of glauconite.
1971-1976	Same as above
1976-2020	The washed residue consists of quartz grains; fragments of light brown, fairly hard, medium-grained, calcareous sandstone; a few pieces of gray shale, lignite, *Lenticulina sp. Nodosaria sp., Globorotalia sp.*, and *Anomalina sp.* in the washed residue.
2020-2030	Quartz grains, gray shale; light gray, fairly hard, medium-grained, calcareous, glauconitic sandstone; lignite, siderite, and glauconite.
2030-2045	Brownish, coarse-grained, arenaceous, calcareous clay; light brownish, medium hard, fine-grained, calcareous, slightly glauconitic sandstone; lignite, glauconite and pyrite.
2045-2060	Quartz grains, gray shale, light brown sandstone, pyrite and glauconite.
2060-2070	Gray, medium-grained, very calcareous clay; quartz grains, glauconite and fragments of light gray, fairly soft, fine-grained, calcareous, glauconitic sandstone.
2070-2080	Same as above; also fragments of white soft, fine-textured, arenaceous, glauconitic limestone.
2080-2100	Quartz grains; gray shale; white, glauconitic limestone; light brown, calcareous sandstone; white limestone; glauconite, lignite, and siderite.
2100-2105	Sample same as above.
2105-2116	Quartz grains, gray shale; white, fairly hard, arenaceous, glauconitic limestone; siderite; gray, fine-grained, calcareous, glauconitic sandstone; pyrite, glauconite, aragonite and a fragment of an Orbitoid. NOTE: The Orbitoid fragment noted above doubtless came from the Monroe Gas Rock.
2116-2118	Quartz grains; fragments of gray shale, siderite and glauconite; some of the fragments of gray shale are stained brownish.
2118-2121	Gray shale; white, soft, fine-grained, silty, noncalcareous sand and quartz grains in this sample.
2121-2122	Quartz grains; a few pieces of gray shale; white, crystalline limestone; glauconite and siderite.
2122-2131	Gray shale; quartz grains; white, arenaceous limestone, siderite, aragonite and glauconite.
2131-2141	Alternating thin layers of white, soft, fine-grained, tuffaceous (?) sand and red and gray, noncalcareous clay; quartz grains red clay, and siderite in the washed residue.
2141-2142	Sample same as above.
2142-2153	Clay-dark green, fine-grained, calcareous. A few specimens of plano-spiral

POINSETT COUNTY—Continued

Interval	Formation
	arenaceous forams in the washed residue.
2153-2157	Clay-reddish, medium grained, very calcareous. Quartz grains, glauconite, white limestone and fragments of red clay in the washed residue.
2157-2179	Same as the sample from 2142-53.
2179-2192	Quartz grains, gray shale; light gray, arenaceous, glauconitic limestone; glauconite, siderite and white limestone.
2192-2205	Dark green, medium-grained, calcareous clay. Quartz grains, white limestone, and a few arenaceous forams in the washed residue.
2205-2213	Fragments of brown chert; gray shale; quartz grains, and glauconite.
2213-2224	Lignite, quartz grains and pieces of gray, soft, fine-grained, non-calcareous, lignite clay.
2224-2234	Brown, hard, Paleozoic crystalline, limestone; gray shale; quartz grains; light gray, glauconitic, calcareous sandstone; siderite, brown chert and pyrite. NOTE: The lithology of the brown limestone in this sample suggests the Paleozoic.
2234-2249	Brown and gray, hard, crystalline, slightly dolomitic limestone. AGE: Paleozoic.
2249-2276	Same as above.
2276-2279	Same as above; also rounded grains of quartz.
2279-2305	Brown, hard, crystalline, slightly fossiliferous limestone; white, medium hard, fine-textured, fossiliferous limestone and a few fragments of brown chert. A few impressions of small Pelecypoda noted.
2305-2335	Sample same as above.
2335-2370	Gray and brown, hard, crystalline limestone; also white, hard, crystalline limestone.
2370-2382	Sample same as above.
2382-2400	Light gray, hard, crystalline limestone; brown, hard crystalline limestone and a few pieces of dark gray, hard, coarse-grained, calcareous shale. AGE: Paleozoic Lithology.
2400-2413	Brown, hard, crystalline and gray, hard, crystalline limestone; also white, fairly soft, medium-textured limestone.
2413-2432	Same as above.
2432-2453	Light brown, hard crystalline and white, fairly ly hard, medium-textured limestone.
2453-2495	Brown, hard crystalline limestone and light gray, fairly hard, medium-textured limestone.
2500-2506	Same as above; also brown hard crystalline limestone; dark green shale and a joint of a Crinoid stem noted.
2506-2515	Same as above; also a few fragments of dark gray, hard, medium-grained, non-calcareous shale.
2515-2516	Large, more or less rounded grains of crystalline quartz; dark gray, non-calcareous shale; white, weathered chert;

POINSETT COUNTY—Continued

Interval	Formation
	light gray hard crystalline limestone and pyrite.
2516-2534	Brown and light brownish gray, hard, crystalline limestone.
2534-2567	Same as above; also fragments of white, fairly hard, medium-textured limestone.
2567-2574	Light gray, hard, crystalline limestone.
2594-2602	Same as above; also brown, hard, crystalline limestone.
2602-2622	Light gray, fairly hard, medium-textured, slightly fossiliferous limestone; brown, hard crystalline limestone. A small specimen of *Bairdia sp.* noted.
2622-2643	Brown, hard, crystalline limestone; light gray, hard crystalline limestone; brown, hard, coarse-textured, slightly dolomitic limestone.
2643-2677	Light gray, hard, crystalline limestone; also a few fragments of brown, hard, crystalline limestone and pieces of black chert.
2677-2690	Angular and sub-angular grains of quartz; brown, hard crystalline limestone; and a few grains of glauconite noted.
2690-2754	Brown, hard, crystalline limestone; and light gray fairly hard, medium-textured limestone.
2754-2760	Same as above; also an equal amount of angular, sub-angular and poorly rounded grains of quartz.
2760-2767	Light brown, hard crystalline limestone; quartz grains; white, medium soft, fine-textured limestone and a few fragments of dark gray, hard, fine-grained, non-calcareous shale.
2767-2782	Same as above.
2782-2793	Light gray, hard crystalline limestone; brown, hard, crystalline limestone and grains of quartz. AGE: Paleozoic Lithology.
2793-2797	Gray, hard, coarse textured, slightly dolomitic limestone; quartz grains; gray, hard, coarse-grained, non-calcareous shale and brown, hard crystalline limestone.
2797-2803	Dark brown, hard crystalline, pyritiferous limestone.
2803-2810	Same as above; also light gray, fairly hard, crystalline limestone; brown, hard coarse-textured, dolomitic limestone and a few grains of quartz.
2810-2826	Brown, hard, crystalline limestone; also light gray, fairly hard, coarse-textured limestone.
2826-2834	Dark brown, hard, crystalline limestone; light gray, medium hard, coarse textured, slightly dolomitic limestone.
2834-2840	Same as above.
2840-2846	Dark brown, hard, crystalline limestone; also a few fragments of light gray, fairly hard, medium textured limestone and quartz grains noted.
2846-2853	Sample same as above.
2853-2860	Sample same as above.

POINSETT COUNTY—Continued

Interval	Formation
2860-2890	Dark brown, hard, crystalline limestone, light gray, hard, crystalline limestone; a few grains of quartz and glauconite.
2890-2895	Dark brown, hard crystalline limestone and a few fragments of black, hard, medium-grained, non-calcareous shale.
2895-2903	Same as above; also brownish gray, hard, coarse-textured limestone.
2909-2959	Dark brown, hard, crystalline limestone, light gray, medium hard, medium - textured limestone and a few grains of quartz in the sample.
2959-2978	Fragments of brownish gray, hard crystalline limestone; white, fairly hard, medium-textured limestone and a few large rounded grains of quartz in the sample. AGE: Paleozoic Lithology.
2978-2992	Black, hard, medium-grained, slightly calcareous, carbonaceous shale; brownish gray, hard, crystalline and light gray, hard, medium-textured limestone.
2992-3005	Brown, hard, crystalline limestone; gray, hard, crystalline, dolomitic limestone and white, soft-medium-textured limestone.
3005-3032	Sample same as above.
3032-3058	Same as above. A few fragments of black, hard, non - calcareous carbonaceous shale noted.
3058-3085	Brownish, hard, crystalline limestone; light gray, hard crystalline and medium-textured limestone and a few fragments of greenish gray, hard, medium - grained, calcareous shale.
3085-3225	Brown, hard, crypto-crystalline limestone and light gray, hard crystalline limestone.
3225-3240	Almost white, hard, crystalline limestone, and a few fragments of dark gray shale.
3240-3264	Dark brown, hard, crypto - crystalline and light gray, fairly hard crystalline limestone.
3264-3588	Same as above; also a few fragments of dark gray, hard, medium-grained, slightly calcareous shale.
3388-3394	Light gray, hard crystalline limestone.
3394-3421	Light brown, hard, crystalline and a few pieces of white, fairly hard, medium-textured limestone.
3421-3480	Brown, hard, crypo-crystalline and light gray, hard crystalline limestone.
3480-3499	Light gray, hard coarse-textured and crystalline limestone.
3499-3512	Brownish gray, hard, crystalline and light gray, fairly hard, medium-textured limestone.
3542-3569	Same as above.
3569-3585	Almost white, medium hard, crystalline and fine-textured limestone.
3585-3593	Brown, hard, crystalline and light gray, hard crystalline limestone.
3595-3642	Dark gray, hard crystalline limestone; brown, hard, crypto-crystalline

POINSETT COUNTY—Continued

Interval	Formation
	limestone; and white medium-textured limestone.
3658-3667	Brownish-hard, crystalline and light gray, hard, crystalline limestone.
3667-3675	Fragments of dark gray, hard, crystalline limestone, light gray fairly hard, coarse-textured limestone and a few small pieces of dark brownish, hard, medium-grained non-calcareous shale. AGE: Paleozoic Lithology.
3675-3684	Dark brown, hard, crystalline, slightly pyritiferous limestone and a few pieces of light gray, hard, crystalline and coarse-textured limestone in the washed residue.
3684-3689	Sample same as above.
3689-3697	Fragments of dark brown, hard, crypto-crystalline limestone light gray, fairly hard, coarse-textured limestone and a few pieces of black, hard, carbonaceous non-calcareous shale.
3697-3700	Sample same as above.
3704-3723	Dark brown, hard crypto-crystalline, limestone, and a few fragments of white, fairly soft, medium textured limestone.
3723	TOTAL DEPTH.

POINSETT COUNTY

Company: Rockwell Development Company Well No. 1
Lease: W. A. Smith
Location: 10 chains from cen. of E line NE NE Sec. 13-11N-3E
Total Depth: 2278 Elevation: 280 (topo map)
Began Drilling: 7-25-35 Completed: 11-15-35
Source of Information: Arkansas Board of Conservation.

Driller's Log of Well

Bottom (Feet)	Formation
10	Soil, hard pan
25	Hard pan
50	Sand streaks clay
69	Clay
80	Sand, water
120	Sand, boulders
160	Gravel
185	Sandy gumbo
212	Packed sand
221	Streak lig. coal
229	Sand, water
242	Gumbo
244	Sand and coal
252	Gumbo
259	Sand dry
266	Sandy gumbo
276	Gumbo
288	Gumbo
302	Gumbo and sand
320	Gumbo
342	Gumbo and sand
350	Gumbo
360	Gumbo
365	Gumbo
384	Gumbo
396	Shale and sand
419	Sand gumbo
443	Gumbo
470	Gumbo and sand (470)
472	Boulders

POINSETT COUNTY—Continued

Bottom (Feet)	Formation
477	Gumbo
497	Gumbo
502	Sand
504	Boulders
520	Black gumbo
570	Water sand
572	Shale soft
600	Shale
619	Black shale
626	Shale
634	Shale
647	Shale soft
657	Shale
660	Hard shale
688	Shale and coal wood
708	Hard coal
726	Hard shale sand
728	Boulders
734	Shale
740	Shale
755	Shale
756	Chalk, Gipson
759	Gumbo
765	Shale and boulders
768	Water, sand
794	Shale gumbo
795	Rock
799	Sand shale
804	Hard sand
809	Hard sandy shale
810	Sandy shale
811	Sand
812	Rock
814	Sand, shale
820	Sand shale blue
834	Sandy shale
836	Shale
842	Sand water
852	Sand shale
860	Sand and shale
868	Sand shale
869	Sand
870	Rock
872	Sand shale
892	Shale gumbo
896	Gumbo
900	Blue shale and sand
906	Sand and shale
910	Sand and shale
918	Water sand
920	Rock sand
921	Sand and shale
928	Sand and shale blue gumbo
938	Sand hard sharp
948	Sand water
948	Sand and shale
958	Sand packed
962	Packed sand
963	Carbonized wood
965	Blue gumbo sand
968	Sand
974	Sandy gumbo
975	Carbonized wood
978	Gumbo
979	Carbonized wood
986	Gumbo
987	Gumbo
989	Sand and shale
998	Sand shale
1004	Black shale
1008	Shale
1012	Black shale
1018	Gumbo blue streaks
1029	Gumbo
1030	Sand coarse
1034	Gumbo blue streak
1035	Black wood
1037	Sand and blue gumbo
1040	Sand black wood
1044	Gumbo
1048	Gumbo and black wood
1050	Sandy shale
1051	Hard shale black
1056	Soft black shale
1064	Sand
1068	Gumbo
1069	Wood
1074	Water sand
1078	Sand gumbo
1080	Sand gumbo

POINSETT COUNTY—Continued

Bottom (Feet)	Formation
1084	Sand
1108	Sand and blue gumbo
1116½	Sand
1117½	Rock
1118	Rock
1119	Sand core No. 1
1120	Sand some water
1126	Sand
1127	Limestone
1127½	Sand
1128	Limestone
1129	Sand
1129-6	Limestone
1130	Sand
1132	Sandy shale
1134	Sand and layers rock
1134-6	Rock
1144	Sandy shale
1144-6	Lime rock
1146	Sand
1146-8	Lime rock
1157	Sand shale (probably should be 1152)
1152-4	Lime rock, hard
1157	Blue gumbo, marl
1158	Limestone
1161	Gumbo
1162	Rock, sandstone
1162½	Sandstone
1174	Gumbo streaks sand
1176	Sand and blue gumbo
1184	Gumbo and sand
1189	Gumbo and sand
1190	Rock
1191	Rock and sand
1200	Gumbo
1206	Sand and gumbo
1210	Sand and gumbo
1212	Sand and shale
1220	Shale and gumbo
1230	Shale and gumbo
1240	Sandy shale
1250	Shale gumbo
1254	Sand hard
1260	Sand and boulders
1265	Sandy shale
1274	Gumbo, sand
1280	Sand hard
1290	Gumbo
1300	Sand, shale
1310	Gumbo
1322	Gumbo and shale
1328	Gumbo
1330	Hard shale
1338	Gumbo, sand shale
1343	Sand
1349	Shale and gumbo
1360	Gumbo
1370	Shale
1380	Gumbo
1395	Shale
1405	Gumbo
1415	Shale
1435	Gumbo
1438	Sand and chalk
1450	Gumbo and shale
1465	Shale lime
1466	Lime rock
1472	Shale gumbo
1480	Gumbo lime rock
1490	Gumbo
1492	Broken lime and shale
1499	Shale
1510	Gumbo
1515	Shale and lime rock
1520	Gumbo
1524	Broken lime and gumbo
1534	Broken lime and shale
1540	Streaks gumbo and shale
1540½	Lime rock
1542	Hard shale
1545	Gumbo
1550	Gumbo and shale
1555	Shale
1557	Broken shale and lime rock
1565	Gumbo
1570	Shale and gumbo
1570½	Sand
1575	Gumbo
1580	Shale

POINSETT COUNTY—Continued

Bottom (Feet)	Formation
1585	Shale and lime rock
1590	Gumbo and shale
1595	Broken shale
1600	Shale
1610	Shale
1610½	Sand broken
1614	Broken shale
1616	Broken shale
1617	Lime rock
1620	Gumbo and shale
1625	Broken shale
1635	Sand and shale
1640	Gumbo and sand
1645	Broken shale hard
1647	Gumbo sand
1650	Hard shale
1655	Gumbo
1658	Water sand
1662	Hard shale
1670	Hard sand
1680	Broken shale sand
1684	Sand water
1695	Hard sandy shale
1700	Broken shale
1710	Sand, broken shale
1720	Hard sand, sandy shale
1726	Hard sandy shale
1736	Shale and sand
1738	Sand hard boulders
1748	Gumbo
1752	Hard shale
1765	Sandy shale
1770	Gumbo
1780	Sand
1799	Sandy shale
1804	Hard sand dark
1810	Sandy shale
1820	Gumbo
1825	Sandy and gumbo
1829	Shale and pyrites of iron
1833	Shale and sand
1836	Gumbo blue
1839	Shale hard
1845	Hard lime rock and shale
1846	Lime soft
1847	Lime rock hard
1848	Sand lime hard
1850	Hard lime rock
1852	Lime and sand
1856	Hard lime
1860	Shale
1862	Hard lime rock
1870	Sand lime
1872	Lime rock
1876	Gumbo and lime
1877	Lime rock
1879	Sand
1885	Lime and sand
1891	Limestone
1898	Lime, sand
1900	Sand
1906	Sand hard
1910	Shale
1914	Sand lime hard
1916	Lime and sand hard
1918	Limestone
1920	Sand and lime hard
1925	Shale hard
1927	Sand hard
1928	Hard lime
1932	Shale sand
1936	Lime and limestone
1937	Limestone
1938	Limestone
1940	Lime and sand
1944	Lime and shale
1947	Limestone and sand
1960	Shale and sand
1957	Limestone
1960	Sand
1972	Sand and shale
1975	Gumbo
1980	Sand and shale
1982	Hard shale
1983	Limestone
1986	Sand packed
1987	Sandstone
1991	Shale gray
1992	Sand
1998	Hard sand

POINSETT COUNTY—Continued

Bottom (Feet)	Formation
2006	Shale
2009	Sand
2012	Shale and sand
2015	Gumbo
2020	Shale
2028	Gumbo
2030	Sand
2031	Limestone
2032	Limestone
2036	Dark sand
2040	Gumbo and layers sand
2046	Shale and layers sand
2047	Sand rock
2049	Sand
2054	Shale
2056	Sand
2062	Shale
2063	Lime and sand
2064	Lime rock
2074	Shale
2075	Sand
2079	Boulders
2080	Shale and shells
2082	Lime and sand
2086	Shale and lime
2087	Lime rock
2090	Gumbo streaks shale
2110	Sandy shale
2114	Sand
2120	Sand-shale
2125	Sand-lime
2126	Hard sand-shale
2129	Sand-lime
2134	Sand-shale
2135	Hard sand
2138	Sand shale
2146	Sand and shale
2148	Shale
2154	Sand
2156	Shells-white clay
2158	Sand
2159	Sand
2164	Shale
2171	Sand-shale
2177	Gumbo and sand
2179	Gumbo and marl
2182	Sand gumbo
2186	Blue marl chalk
2188	Sand
2189	Broken lime
2198	Lime rock and sand
2199	Sand
2200-6	Sand-dark clay
2203	Sand-dark clay
2215	Sand-shale
2218	Gumbo
2223	Streaks gumbo-sand
2231	Sand-shale
2233	Lime rock black
2237	Streaks sand - pyrites of iron
2241	Sand - streaks packed
2245	Sand
2255	Streaks limestone
2252	Sand and pyrites of iron
2255	Light clay and shale
2260	Limestone gray
2263	Dark clay
2264-6	Core - dark lig. clay and streaks gray sand
2265	Same as above
2266-6	Core lig. clay-vol. ash
2267-6	Lig. sand
2269	Lig. clay - vol. ash
2272	Boulders
2273	Sand
2278	Lig. clay sand
	T. D. 2278

NOTE: Depth of hole corrected to 2252′ SLM. Total depth of hole 2269′ in limestone. Rig skidded for new test as advised.

PRAIRIE COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
* 3	Arkansas Grand Prairie	McClintock	SE¼	12- 2N- 5W	2770	194		1917?
* 9	Belleporte, A. J.	Thomas, J. S.	150'S 250'E NWc NW NW	8- 4N- 6W	1508	240	12-23-24	5- 1-25
* 6	Bowler Well Company	Screeton-Hardke	NE NW	20- 2N- 6W	2370	260	8- ?-21	12-15-23
* 5	Bowler Well Company	Simms, John	NW SE	31- 2N- 5W	2348	225	1924	5-22-24
* 2	Harvey Dev. Co.	Kocourek, J.	150'S 150'E NWc NW NW	5- 1N- 5W	2564	225	3-21-26	4- 1-28
‡†*12	Martin & Coker	Stewart, W. H.	1600'S 2000'E of NWc	3- 3N- 5W	3163	210	2- 5-46	6-15-46
* 10	Stark, A. E.	Fidelity Mutual	Cen NE SW	16- 2N- 6W	1350	233 ±	3- 1-41	11- 6-41
†* 7	Transcontinental Oil	Novak, L.	330'N 330'E SWc SW NE	36- 2N- 6W	2954	223	9-19-29	3- 6-30
‡†*11	Victory Dev. Co.	Clayton, A. E.	650'N 650'W SEc SE NE	10- 1N- 5W	3388	222 ±	7-24-43	43

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

PRAIRIE COUNTY

Company: Transcontinental Oil Co. Well No. 1
Lease: Louis Novak
Location: 330'N 330'E SWc SW NE Sec. 36-2N-6W
Total Depth: 2954 Elevation: 223
Began Drilling: 9-19-29 Completed: 3-6-30
Casing Record: 12" @ 255'; 8" @ 2058'
Source of Information: Arkansas Board of Conservation Official Log

Driller's Log of Well

Bottom (Feet)	Formation
90	Surface clays and sand
159	Sand gravel and boulders
160	Tough gummy streak
212	Sand gravel and shale
253	Sand and gravel
272	Blue shale
295	Shale and streaks of sand
315	Sand
374	Sand and shale
381	Sand and lignite
398	Sand and shale
406	Sand and lignite
484	Clay and shale
485	Gray rock
517	Gray shale
518	Rock
568	Sticky shale
569	Rock
580	Sticky shale
603	Chalky shale
714	Sandy shale and lignite
857	Sandy shale and lignite
860	Water sand white
998	White sand and lignite
999	Rock
1007	Hard gray shale
1009	Rock
1039	Lignite and sandy shale
1132	Sticky shale
1148	Sandy shale
1150	Hard sandy lime rock
1235	Soft dirty sand
1283	Soft sand
1288	Sandy shale
1290	Lignite
1330	Sandy shale
1341	Sticky shale
1391	Sandy shale, gummy streaks
1392	Rock
1416	Sandy shale, gummy streaks
1531	Sticky shale
1574	Shale
1648	Sticky shale
1650	Shale and boulders
1769	Sticky shale and boulders
1800	Sticky shale
1823	Sticky shale and boulders
2015	Sticky shale
2060	Sticky shale and shells
2114	Sticky shale and shells
2169	Shale, streaks sandy shale
2181	Sandy shale with soft lime and shells
2184	Sticky shale
2191	Chalky shale and shells
2196	Sandy shale and shells
2205	Chalky shale
2219	Sandy shale and shells
2235	Chalky shale
2248	Sticky shale
2255	Sand, soft
2273	Sandy shale
2323	Hard dark grey shale
2325	Broken Quartzite
2341	Hard dark shale
2354	Hard dark shale with thin streaks of hard sand
2370	Hard dark shale
2377	Hard dark shale with thin streaks hard sand

PRAIRIE COUNTY—Continued

Bottom (Feet)	Formation
2388	Hard dark shale
2411	Hard dark shale with thin streaks of hard sand
2421	Hard dark shale
2488	Hard dark shale with thin streaks of hard sand
2496	Streaks of hard dark shale and hard sand
2497	Hard gray sand rock
2528	Hard gray sand rock with streaks hard dark shale
2531	Hard grey sand rock
2534	Hard dark shale
2543	Hard rock streaks hard shale
2553	Hard dark shale
2582	Hard dark shale with streaks of hard sand rock
2595	Hard dark shale
2623	Hard dark shale, streaks of hard sand rock
2652	Soft flakey dark shale
2658	Hard dark shale
2680	Hard dark shale with streaks of hard sand
2766	Hard dark shale
2782	Hard dark shale with streaks of hard sharp sand
2786	Hard sharp sand
2791	Hard sharp sand with streaks of dark shale
2799	Hard sandy lime rock
2800	Hard sharp sand
2806	Hard sharp sand with a little sandy lime
2811	Hard sharp sand
2812	Streak soft gray sandy clay
2817	Hard dark shale streaks of hard sand and pyrite
2860	Hard dark shale
2866	Hard sand streaks dark shale
2902	Very hard sharp sand rock
2911	Hard dark shale streaks of hard sharp sand
2923	Hard sharp sand rock
2928	Hard dark shale streaks of ?
2933	Hard sharp sand rock
2944	Hard sharp sand with streaks of hard shale
2954	Hard sand rock and Quartz
	TOTAL DEPTH
	Drill stem test at 1148′ made 900′ of water slightly salty in 15 minute test
	test at 1285 made 1200′ water in 22 minute test
	Test at 2896′ made 1200′ salt water with small show of gas 1 hour and 5 minutes test

Paleontological Description

Interval	Description
860- 998	Coarse, light brown sand with trace of organic matter. Sample washed to a bulky concentrate of some small and angular quartz grains, and abundance of large, rounded, and etched grains. No trace of fossils.
1086-1090	Core: Loose brown clay with abundance of dark brown, porous and vesicular organic matter; probably Wilcox.
1230	Core: Light grey sand, slightly cemented. Washes to a bulky concentrate of fine angular quartz, and considerable glauconite, some dark and light mica, dark chert, rose quartz, and other dark minerals. No fossils.
1294	Black organic matter typical of Wilcox beds.
1306	Core: Light grey, silty clay that washed to a considerable concentrate composed of very fine angular quartz

PRAIRIE COUNTY—Continued

Interval	Formation
	sand, trace of glauconite, abundance of greenish and brown mica, some carbonized black plant tissue. No fossils.
1345	Core: Loose, porous, brown clay that washed to a very minute concentrate of a few quartz grains few pyrite pellets, trace black plant tissue, and trace of arenaceous forams that are frequent in the uppermost Midway. However, this can be one of those rare marine streaks in the lower Wilcox, a lithologic phase that carries the same forms as the uppermost Midway. Final decision must rest on the lithologic and paleontologic study of a series of samples taken at close stratigraphic intervals. The lack of fossils in the next sample suggests possible Wilcox age for this.
1395	Core: Brown fine sand that washed to a bulky concentrate of fine quartz sand, some mica, abundance of fine glauconite that has turned brown through oxidation, very little plant tissue. No fossils.
1435-1455	Cuttings: Dark shale that washed to a rather small concentrate of pale green glauconite, rounded and etched sand grains, chert fragments, and no trace of fossils.
1560	Core: Grey, compact, laminated clay that washed to a minute concentrate of fine quartz sand, few rounded and etched grains of quartz, pyrite in minute spherules, trace of pale green and earthy glauconite, considerable fish remains, and numerous arenaceous forams typical of uppermost Midway strata. *Bigenerina* sp., *Ammobaculites.*
1650	Core: Very compact, grey clay that washed to a minute concentrate of small pellets of pyrites, few sand grains, and a trace of foram tests that bespeak uppermost Midway age. *Bulimina, Cornuspira.*
1720-1740	Cuttings: Grey clay that washed to a very small concentrate of brown ferruginous limestone (probably a ground-up concretion), some angular to round, white quartz sand, little glauconite, little pyrite, and only a few fragments of upper Midway forams.
1835-1850	Cuttings: Dark grey clay that washed to a very small concentrate of little sand, pyrite, trace of pale green glauconite, trace mica, some particales of iron carbonate, angular fragments of ferruginous limestone (concretion), few forams typical of upper Midway strata but unusually scarce and poorly developed for a position as low in the formation as this appears to be. *Bulimina, Nonionina, Glomospira, Haplophragmoides.*
1853-1878	Dark shale that washed to a small concentrate of

PRAIRIE COUNTY—Continued

Interval	Formation
	sand, glauconite, pyrite, and trace of forams typical of the Midway: *Cristellaria midwayensis, C. degolyeri, Truncatulina culter, T. midwayensis.*
1878-1896	Dark shale that washed to a very small concentrate of fine sand, glauconite, pyrite, and fragments of shells. Midway forams frequent: *Cristellaria midwayensis, Truncatulina Midwayensis, Nodosaria radicula, N. granti, N. affinis, Glomospira, Vaginulina gracilis.* The assemblage in this sample indicates a position in the basal Midway zone.
1896-1920	Dark shale that washed to a very small concentrate of sand, pyrite, glauconite, and very few forams all of which are diagnostic of Midway strata, and certain forms of the basal Midway zone. *Cristellaria midwayensis, Globigerina triloculinoides, Textularia carinata, Ammobaculites* sp.
1920-1940	Cuttings: Dark shale that washed to a very small concentrate that carried forams indicating a position in the Basal Midway zone. *Cristellaria midwayensis, Truncatulina midwayensis, Vaginulina gracilis, Pulvinulina exigua.*
1940-1960	Cuttings: Dark shale that washed to a very small concentrate of sand, pyrite and resistant clayey material; forams diagnostic of the basal Midway zone are frequent: *Cristellaria midwayensis, Truncatulina midwayensis, T. culter, Vaginulina gracilis, Clavulina* sp.
1990	Core: Compact, brownish-grey, laminated clay that washed to a very small concentrate of angular to rounded and etched quartz, carbonized plant tissue, no fossils.
2015-2024	Core: Grey fossiliferous clay that washed to a small concentrate of fine quartz and chert sand, some fine dark glauconite, abundant shell fragments, few fish remains, numerous ostracods, and many exquisitely preserved Arkadelphia forams: *Cristellaria navarroensis, Anomalina navarroensis, Haplophragmoides excavata, H.* sp., *Guembelina, Trochammina gyroides, Gaudryina.*
2065-2083	Core: Very fossiliferous, loose, grey, somewhat sandy clay that washes readily to a moderate concentrate of white quartz sand, particles of grey chert, very little glauconite, abundance of shell fragments, fish remains, ostracods, and numerous typical Arkadelphia forams: *Cristellaria navarroensis, Gaudryina* sp., *Haplophragmoides excavata, Anomalina navarroensis.*
2090-2110	Core: Very fossiliferous, very compact, well-laminated, grey clay that washes readily to a very

PRAIRIE COUNTY—Continued

Interval	Formation
	small concentrate of a few sand grains, abundance of shell fragments, and a few typical Arkadelphia forams: *Quinqueloculina* sp., *Cristellaria navarroensis, Haplophragmoides excavata.*
2110-2114	Core: Very fossiliferous, sandy, light grey clay that washes readily to a large concentrate of quartz sand, grey chert little glauconite, fish remains, pyrite, abundant shell fragments, ostracods, and numerous Arkadelphia forams: *Guembelina, Gaudryina, Cristellaria navarroensis.*
2114-2120	Core: Very compact, dense, greasy-looking, olive-grey clay that washes to a very small concentrate of some fine quartz sand, little chert, abundance pyrite, little glauconite, fish remains, ostracods, and many forams of Arkadelphia age: *Gaudryina, Ammobaculites, Haplophragmoides excavata. Cibicides, Anomalina navarroensis.*
2120-2126	Core: Very fossiliferous, little fine sand in streaks, olive, grey clay that washes to a very small concentrate like that just above.
2126-2152	Core: Very fossiliferous, sandy, light-grey clay that washes to a large concentrate of fine quartz sand, little chert, considerable pyrite, little glauconite, very little brown mica, echinoid spines, fish remains, abundance shell fragments, ostracods, and many typical Arkadelphia forams: *Globotruncana, Guembelina, Gaudryina, Cristellaria navarroensis, Anomalina navarroensis, Reophax.*
2152-2169	Core: Very fossiliferous, very dense, hard, light grey, well-laminated clay cemented in streaks. Sample washed to a small concentrate of hard rock fragments, loose quartz sand, pyrite, trace glauconite, fish remains, abundance shell fragments, ostracods, and a few typical Arkadelphia forams.
2169-2181	Core: Light grey, hard, dense, calcareous shale or marl that washed to a moderate-sized concentrate composed almost wholly of mineralized fossils (calcite replacement): Inoceramus prisms, echinoid spines, fish remains, ostracods, and typical uppermost Cretaceous forams. *Guembelina, Ammobaculites, Haplophragmoides excavata, H. rugosa, Globigerina aequilateralis, Anomalina navarroensis, Cristellaria navarroensis.*
2181-2185	Core: Hard, dense, light grey calcareous marl that washed to a moderate size concentrate composed almost wholly of mineralized fossils (calcite replacement): shell fragments, echinoid spines, ostracods, Inoceramus prisms, and abundance Arkadelphia

PRAIRIE COUNTY—Continued

Interval	Description
	forams: species like those of preceding sample.
2185-2191	Core: Light grey, very fossiliferous, rather loose calcareous clay or marl that washed to a moderate-sized concentrate of shell fragments, echinoid spines, ostracods, fish remains, Inoceramus prisms, and abundance of Arkadelphia forams — *Anomalina grosserugosa, Textularia* sp., *Clavulina triquetra, Globotruncana, Guembelina, Bolivina, Nodosaria affinis, Haplophragmoides excavata.*
2191-2196	Core: Light grey, highly calcareous, chalky clay that washed to a concentrate like that above.
2196-2205	Core: Very hard, granular, grey-white limestone with abundance of fossils; washed to a moderate concentrate of resistant chalky fragments, and abundance of fossils considerably coated with a fine chalky matter that obscures the details of structure and specific characters — *Frondicularia archiaciana, Guembelina. Clavulina triquetra, Gaudryina.*
2205-2219	Core: Very fossiliferous, white-grey, highly calcareous shale that washed to a moderate concentrate of resistant chalky fragments, and abundance of large shells (Exogyra), and highly mineralized microfossils — echinoid spines, ostracods, and forams of typical uppermost Cretaceous completion.
2232	Core: Loose chalky, white, shell "breccia" rather well cemented in thin platy laminae that do not disintegrate in water. The softer streaks can be rubbed down and yield a concentrate of shell fragments and a few forams.
2233-2235	Core: Very hard, calcareous, light grey, chalky white shale that washes to chunks of hard rock, sand, little glauconite, pyrite, Inoceramus prisms, fish remains, coprolitic bodies, ostracods, forams of Arkadelphia age: *Anomalina taylorensis, Guembelina, Clavulina triquetra,* etc.
2235-2246	Core: Very fossiliferous, dense, greasy-looking, medium grey clay that washed to a moderate concentrate of white sand, abundance of glauconite, shell fragments, and other fossils in an unmineralized condition: echinoid spines, fish remains, ostracods, coprolitic bodies, few forams — *Haplophragmoides excavata, anomalina, Gaudryina, Globigerina rugosa, Haplophragmoides calcula, Anomalina navarroensis, Vaginulina* sp., *Gyroidina* sp.
2244-2248	Core: Very fossiliferous, dense, greasy-looking, somewhat sandy clay that washed to a moderate concentrate of fine white sand, considerable glauconite, py-

PRAIRIE COUNTY—Continued

Interval	Formation
	rite, Inoceramus prisms, fish remains, and a few upper Cretaceous forams.
2248-2255	Core: Light grey sandy clay with hard streaks that washed to a bulky concentrate of fine white etched sand with hard lump of cemented sand, little pyrite, trace fish remains, some glauconite, and a few scattered forams: *Cristellaria navarroensis, Vaginulina* sp., *Gaudryina* sp. Arkadelphia in age.
2255-2260	Core: Fine, grey, argillaceous sand that washed to a very bulky concentrate of fine white angular quartz sand almost uncontaminated with any dark mineral. Fossils very scarce.
2255-2260	Core: Grey clayey fine sand that washed to a bulky concentrate of fine angular white, and somewhat etched, quartz sand, little pyrite in small nodules and as a cement, few forams: *Clavulina triquetra, Gaudryina* sp., *Cristellaria navarroensis.*
2260-2268	Core: Light grey fine sand with hard streaks. Washed sample composed of fine white quartz grains, little pyrite, trace of glauconite, and few forams that are strongly diagnostic of Arkadelphia. *Cristellaria navarroensis, Clavulina parisiensis, Vaginulina gracilis var. cretacea. Guembelina sp., Pullena, Anomalina navarroensis.*
2260-2268	Core: Very fossiliferous, sandy, medium grey clay that washed to a bulky concentrate of fine white sand that in spots is well cemented by pyrite into irregular chunks. No fossils.
2268-2272	Core: Compact argillaceous sand that washed to a very bulky concentrate of fine white quartz sand and a scattering of a black and finely crystalline mineral. No fossils.
2273	Core: Dark sandy shale that washed to a bulky concentrate of fine white sand in rounded and etched grains to angular and clear grains. This sample carries an abundance of metamorphosed shale such as is characteristic of Paleozoic age. The previous samples from this core, marked 2268'-2272' have been free of this older shale. No fossils were found in the sand except small fragments of an *Exogyra.*

PRAIRIE COUNTY

Company: M. W. Martin & J. H. Coker Well No. 1
Lease: W. H. Stewart
Location: 1600' S 2000' E of NWc Sec. 3-3N-5W
Total Depth: 3163 Elevation: 210' Est.
Began Drilling: 2-5-46 Completed: 6-15-46
Casing Record: 8-5/8" - 213' w/40 sks.
Source of Information: Arkansas Oil & Gas Commission

Driller's Log of Well

Bottom (Feet)	Formation	Bottom (Feet)	Formation
10	Surface clay	2325	Hard lime
100	Surface sand	2327	Hard lime
190	Sand	2330	Hard lime
245	Shale	2368	Lime and shale
325	Sticky shale	2388	Lime
709	Shale and sand	2411	Lime and shale
987	Sand and shale	2437	Lime and shale
1213	Sticky shale	2455	Lime and shale
1366	Shale	2477	Lime and shale
1421	Shale	2521	Lime and shale
1524	Sticky shale	2561	Shale
1563	Shale	2594	Shale
1578	Sticky shale	2607	Shale lime
1590	Gumbo	2609	Hard lime
1662	Shale	2631	Hard sand and lime
1735	Sand, sticky shale	2650	Shale and lime
1750	Sticky shale	2653	Shale and lime
1790	Sand	2679	Shale
1875	Gray shale	2718	Shale
1895	Sandy shale	2748	Sandy shale
1905	Packed sand	2769	Hard sand and shale
1910	Hard sand	2780	Hard sand and shale
1946	Shale	2790	Sand and shale
1956	Shale	2810	Sand and shale
2002	Shale	2840	Sand
2025	Hard shale	2845	Sand
2046	Hard shale and lime	2856	Lime
2056	Shale and lime	2872	Lime and shale
2067	Shale and lime	2891	Lime and shale
2090	Shale and lime	2907	Lime and shale
2105	Hard shale	2917	Lime and shale
2130	Hard shale	2925	Lime and shale
2163	Hard shale	2928	Sand
2185	Hard shale	2940	Hard sand
2231	Hard shale	2950	Hard sand and shale
2277	Hard shale and lime	2960	Hard sand and shale
2312	Shale	2973	Sandy shale

PRAIRIE COUNTY—Continued

Bottom (Feet)	Formation
2978	Shale
2983	Broken lime and shale
2985	Lime and shale
2987	Hard shale
2990	Hard shale and broken lime
2998	Shale and lime
3004	Shale
3006	Broken lime and shale
3008	Shale and sand
3034	Shale and sand
3051	Shale and sand
3066	Shale and sand
3077	Shale and sand
3083	Shale and lime
3086	Shale and lime hard
3088	Shale and lime hard
3089	Chert
3090	Shale and lime
3099	Chert, black and green shale
3107	Shale
3113	Shale
3117	Shale and lime
3125	Shale and lime
3134	Shale and lime
3135	Hard black shale
3140	Hard black shale
3150	Shale and lime
3155	Hard shale and lime
3163	Hard shale

NOTE: Tops by C. A. Renfroe, Division of Geology, from electric log:

	From	To
Wilcox	550(?)	950
Midway (Porter's Creek)	950	1563
Midway (Clayton)	1563	1600
Arkadelphia	1600	1655
Nacatoch	1655	1852
Basal Sand (?)	1852	1878
Paleozoic	1878	3163 T. D.

PRAIRIE COUNTY

Company: Victory Development Company Well No. 1
Lease: A. E. Clayton
Location: 650'N 650'W of SEc SE NE Sec. 10-1N-5W
Total Depth: 3388 Elevation: 222 (Topo. Map)
Began Drilling: 7-24-43 Completed: 1943
Source of Information: Mr. Curtis, Part Owner

Driller's Log of Well

Bottom (Feet)	Formation
80	Clay and sand
170	Water sand
200	Shale
385	Water sand
795	Sand and shale
850	Sandy shale
855	Sand
885	Sandy shale
990	Sand
991	Sand rock
1310	Sand with streaks of sandy shale
1653	Sand and shale
1665	Hard shale

PRAIRIE COUNTY—Continued

Bottom (Feet)	Formation
1720	Sandy shale
1722	Hard sand
1830	Gray shale
1832	Sandy shale
2080	Grey shale with streaks of sand
2140	Slaty shale
2145	Sticky shale
2309	Shale and sandy shale
2312	Lime shells
2313	Sand
2315	Lime shells
2376	Shale w/streaks of hard shell at 2360
2380	Hard lime
2460	Hard shale w/hard lime shells at 4 to 5′ intervals
2510	Hard shale
2520	Hard lime
2529	Sticky shale
2583	Hard limey shale
2679	Hard lime shale
2737	Lime shale
2752	Hard rock (Paleozoic, HBF)
2792	Hard shale
2820	Hard rock
2910	Sticky shale
2969	Shale and lime
3004	Black shale and sandy shale
3063	Black shale with streaks of sandy shale and streaks of gray lime
3086	Sandy shale and lime
3146	Hard shale and lime
3175	Hard shale
3182	Shale and sand
3214	Gummy shale and sand
3302	Hard shale and sand
3368	Hard dark shale (core 3350-3368)
3388	Dark hard shale
	Broke drill stem off at 2615′ never could recover it.

RANDOLPH COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
†* 1	Old River O & G Co.	Holland	E½ SW	15-18N- 1E	501	300	8- 8-31	1931

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

RANDOLPH COUNTY

Company: Old River Oil and Gas Company Well No. 1
Lease: Holland
Location: E½ SW¼ Sec. 15-18N-1E
Total Depth: 501 Elevation: 300
Began Drilling: 8-8-31 Completed: 1931
Source of Information: Arkansas Division of Geology

Driller's Log of Well

Bottom (Feet)	Formation
10	Soil
70	Yellow quick sand
88	River sand
200	Lime
220	Crevice
230	Gray sand
335	Lime
355	Sand
470	White lime
501	Gray lime
	Blue lime at 500'
NOTE:	Location at Manson Paleozoic at 355' (Information obtained from George C. Branner.)

ST. FRANCIS COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
9	Ark. Natural Gas Co.	Swearingen	2100'N 970'E SEc	14- 6N- 1E	3043	215	3-18-17	11- 6-17
†* 18	Barnwell Drilling Co.	Tombaugh, R. R.	100'N/L 1980'E/L	8- 4N- 1W	2671	214	3- ?-48	4-24-48
* 2	Brownlee Drilling	Whitted	110'N 110'E SWc SW NW	28- 4N- 1W	2810	224	10-20-29	6-14-30
* 14	Coker-Martin-Beals	Bryan, J. A.	520'N and W of SEc	17- 4N- 3E	3292	220	10- 2-46	12- 8-46
‡†*10	Forrest Oil Co.	Shirley	NW NE NE	15- 6N- 3E	3201	309	4-19-20	7- 7-20
‡†*13	Hargraves, D. T.	Peters	NE NE	21- 4N- 1W	2505	205 ±	6-28-41	1941
‡†*12	Hargraves, D. T.	Wellford, J. T.	SE NE	29- 4N- 1W	2265	210 ±	41	1941
* 1	Henderson, E. R.	Britton, W. B.	1000'S NWc NE NW	1- 4N- 1W	3750	217	5-31-32	6-15-33
* 3	Jennings, J. W.	Whitted, F. T.	NW NW	28- 4N- 1W	2745	224	10-18-21	4-16-22
†* 4	Jennings, J. W.	Whitted, F. T. No. 2	NW NW	28- 4N- 1W	2325	212	4- 3-22	7- 5-22
‡†*11	Manning & Martin, Inc.	Gregg, R. C.	1650'S 990'E NWc	20- 5N- 5E	3988	205	6- 3-37	8- 9-37
†*15	Petroleum Products Co.	Engler Bros.	SE SE SE	17- 4N- 1W	2725	209 RT	6-47	8-24-47
†* 7	Walmar Oil Co.	White, F. M.	1908'S 170'E NWc	1- 4N- 2E	3411	215	2-23-32	7- 5-32
* 6	Wheatley Co-op Co.	Ewing	SW NW	34- 4N- 1W	2378	209	4- 1-23	7-25-23
†*17	Weir, H. J. & Sons	Lynn, E. P.	Cen SE¼ SE¼ SE	7- 4N- 1E	2796	205	1-48	3-27-48

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

ST. FRANCIS COUNTY

Company: Petroleum Products Corp. Well No. 1
Lease: Engler Bros. or Caples
Location: Center SE¼ SE¼ SE¼ Sec. 17-4N-1W
Total Depth: 2725 Elevation: 209 R. T.
Began Drilling: 6-47 Completed: 8-24-47
Casing Record: 8-5/8" - 248' w/50 sks.
Source of Information: C. A. Renfroe, Petroleum Geologist, Arkansas Resources & Development Commission

Driller's Log of Well

Bottom (Feet)	Formation
	CLAIBORNE AND YOUNGER:
260	Cement, drilling plug
270	Gray, flaky, poorly fissile clay, lignite flecks, trace glauconite
300	Gray to tan, gritty, poorly fissile shale
330	Sandy clay
350	Tan, fairly fissile, lignitic shale
360	Gray - green, poorly fissile shale
370	Gray, fine - grained, poorly sorted, shaly tight sand
395	Light brown, poorly fissile shale
440	Loose sand, coarse sub-angular grains with trace reworked chert
460	Brown and gray sandy clay
495	Loose sand, trace lignite
510	Gritty, brown clay, brown color looks like dead stain
555	Shaly sandstone
565	Brown, flaky, fairly fissile shale, lignite flecks
590	Sandstone, shaly matrix, trace very fine-grained, orange-colored shaly sandstone (sideritic?)
610	Light gray, plastic clay, sandy in spots
650	Tan to gray, silty clay, trace lignite
680	Dark brown leathery poorly fissile shale
700	Gray, shaly sandstone
705	Gray, plastic shale
740	Shaly sandstone
750	Dark brown, leathery, poorly fissile shale
800	Sandstone, shaly matrix, trace yellow ferruginous, fine-grained sandstone
810	Tan, poorly fissile shale
925	Coarse to fine sand in shaly matrix, one fragment fossil shell
930	Gray, plastic shale
1070	Fine to coarse sand in shaly matrix
1100	Brown to tan sandy shale, gravel?
1110	Gray, plastic shale
1120	Loose, gravelly sand
1143	Very fine sand in shaly matrix
	WILCOX GROUP
1160	Fine to medium, poorly sorted sandstone, trace porosity, no stain
1170	Medium-grained, poorly sorted sandstone, slight porosity, dark brown dead stain
1300	Alternating layers, fine-grained silty sandstones and gray shales, lignite in thin layers at 1210 and 1220, trace vari-colored chert at base

ST. FRANCIS COUNTY—Continued

Bottom (Feet)	Formation
1385	Tight laminar, finely micaceous sand, sideritic at top, ferromagnesian minerals, faint stain
1405	Sand as above, thick layer lignite at base
1435	Silty sandstone
1445	Thick layer lignite
1530	Medium to coarse, fairly well sorted angular sand, trace porosity
1540	Silty sandstone, trace lignite
1590	Gray, finely micaceous, sandy shale, thin lignite streaks
1655	Gray, gummy, sandy shale and fine-grained silty sandstone, streak siderite at 1638
	MIDWAY GROUP
1670	Gray, silty sandstone
1700	Gray, gritty shale (Note that Wilcox-Midway contact is gradational from silty sandstone at 1655 to gritty shale at 1700. See core record below.)
2100	Light gray, splintery fissile shales with occasional thin layers of siderite or siderite nodules.
2180	Light gray, soft calcareous shale, foraminifera
	ARKADELPHIA FORMATION:
2212	Light gray, calcareous shale as above, scattered glauconite pellets, foraminifera
2236	Light gray to dark gray, noncalcareous shale, foraminifera
	NACATOCH FORMATION:
2400	Medium to medium coarse glauconitic fossiliferous sandstone with layers dense calcareous sandy limestone
2510	Sandy gray, fossiliferous, calcareous shale
	SARATOGA FORMATION:
2600	Gray calcareous, fossiliferous shale, fossil fragments, samples very poor
	MARLBROOK (?) FORMATION:
2690	Gray, very fissile, fossiliferous, calcareous shale
2698	Gray, calcareous shale, pyrite
	BASAL DETRITAL SAND
2700	Tight quartzitic sandstone, siderite, pyrite
	PALEOZOIC SYSTEM:
2725	Hard, black, shiny shale with pyrite and streaks of quartzite (Atoka?)

CORE RECORD

Cored 1630 to 1650, recovered 16 feet, 8 feet gray, finely micaceous siltstone and silty shale, 6 inches brown, very hard, dense sideritic sandstone with trace of glauconite, 11½ feet gray, finely micaceous siltstone with streaks white, very fine-grained silty sandstone.

Cored 1650 to 1670, all gray siltstone and silty sandstone as in previous core.

Cored 1670 to 1690, 6 feet very fine-grained silty sandstone, 4 feet laminar siltstone, 1 foot medium gray gritty shale with discontinuous streaks fine-grained white silty sand, 1 foot medium gray fairly fissile shale.

Cored 2156 to 2158, smooth light gray-greenish, very calcareous shale with ostracods and foraminifera.

Cored 2158 to 2174, light gray-green calcareous shale, scattered zones glauconite pellets, foraminifera.

ST. FRANCIS COUNTY—Continued

Bottom (Feet) Formation

Cored 2174 to 2194, recovered 9 feet, gray-green, very calcareous shale, thin-shelled macrofossils.

Cored 2194 to 2213, 12 feet gray-green very calcareous fossiliferous shale, 1 foot dark gray non-calcareous fossiliferous shale.

Cored 2214 to 2231, all dark smoky gray shale, very slightly calcareous, fossiliferous foraminifera.

Cored 2231 to 2251, recovered 9 feet, 2 feet dark gray fissile non-calcareous shale, 1 inch fossiliferous gray tan sandy limestone, 6 feet dark gray shale, 11 inches hard gray medium-grained calcareous glauconitic tight fossiliferous sandstone.

Cored 2251 to 2279, (2 cores?) 2 feet gray shale, 5 feet soft gray glauconitic porous sandstone, 5 feet poorly consolidated sandstone, glauconitic. This latter sand has shaly matrix.

Cored 2280 to 2283, fine to medium-grained shaly sandstone, glauconitic with gray shale matrix.

Cored 2283 to 2288, fine to medium-grained shaly sand with streaks gray sandy fossiliferous shale.

Cored 2288 to 2294, 2 feet medium-grained shaly sand, 2 feet medium-grained gray calcareous, tight, shaly sandstone, very fossiliferous the last foot, 2 feet hard compact sandy limestone, very fossiliferous.

Cored 2327 to 2347, recovered 12 feet, medium to coarse-grained shaly sandstone, last 6 feet very glauconitic and fossiliferous, streaked calcareous hard tight sand at 2340.

Cored 2347 to 2355, gray shaly, very glauconitic medium-grained sandtone with streaks of calcareous sandstone, percentage of glauconite increasing.

Cored 2367 to 2387, very poor recovery, sample sacks of loose, coarse-grained sand.

Cored 2387 to 2407, recovered 6 feet, 2 feet soft gray, shaly glauconitic sandstone with good porosity, no stain, 2 feet hard tight, calcareous, fossiliferous sandstone, 2 feet shaly sandstone.

Cored 2407 to 2427, 11 feet gray shaly, very fossiliferous sandstone, 2 feet sandy shale, 7 feet gray sandy, fossiliferous shale.

Cored 2427 to 2447, gray fossiliferous, sand shale.

Cored 2648 to 2668, recovered 11 feet, 6 feet gray, very fissile fossiliferous calcareous shale, 5 feet gray less fissile, calcareous shale.

T. D. 2725

THIGPEN LABORATORIES, INC.
Core Analyses and Petroleum Engineering Service
4-B Ricou-Brewster Building
Shreveport, Louisiana
June 17, 1947

Petroleum Products Corp.
Brinkley, Arkansas

Attention: **Mr. Glen W. Atterbury**

Gentlemen:

Core Analysis results of cores taken from your Caples No. 1 Well, St. Francis County, Arkansas, are submitted herein.

Analysis of samples from 1501 through 1665 feet and 2243 through 2294 feet showed no evidence of oil, or liquid hydr-carbon saturation. However, the possibilities of gas saturation should be considered.

The porosity-permeability features of the samples analyzed are sufficient for commercial production. The interval 2243-2268 feet is calcareous and reacts very good to acid.

Thank you very much.

Yours very truly,
THIGPEN LABORATORIES, INC.
By: C. H. Thigpen /s/

Company: Petroleum Products Corp. **Well:** Caples No. 1 **Field:** Wildcat
Location: St. Francis County, Arkansas **Remarks:** Off Location Analysis

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Core Analysis and Interpretation (Sidewall Cores)

Depth Feet	Porosity Per Cent	Permeability Millidarcys	Residual Liquid Saturation % Pore Space Oil | Total Water	Probable Production	Remarks
1501			0	*	Dark Grey Sand
1517			0	*	Dark Grey Sand
1649			0	*	Dark Grey Sand
1650			0	*	Dark Grey Sand
1665		222	0	*	Dark Grey Sand
1665			0	*	Dark Grey Sand
2243			0	*	Dark Grey Sand
2246.5			0	*	Dark Grey Limy Sand
2248			0	*	Dark Grey Limy Sand
2250	25.0		0	*	Dark Grey Limy Sand
2252		245	0	*	Dark Grey Limy Sand
2256		219	0	*	Shaly Sand
2268		47	0	*	Dark Grey Limy Sand
2294	33.9	504	0	*	Grey Sand

Note: Chloride (salt) content of sample from 2294 feet 600 PPM
Conventional Sample from 2294 feet.

* No evidence of oil saturation was present
Possibilities of gas saturation should be considered.

(From T. H. Philpott, Carter Oil Company, Shreveport, Louisiana)
Micropaleontological Notes

Interval		Description
2156-58	Core	Shale - medium gray, soft, calcareous
		Globigerina sp. (abundant)
		Anomalina midwayensis
		Bulimina quadrata
	Age:	Midway
2158-74	W.R.:	Forams, and shell fragments
		Lenticulina midwayensis
2174-90	Core	*Globigerina cretacea*
	W.R.	*Gumbelina striata*
		Globotruncana arca
		Lenticulina midwayensis
		Vaginulina webbervillensis
	Age:	Arkadelphia
2190-94	Core	W.R.: Pyrite spheres, forams and ostracods
		Globotruncana arca
2194-2200	Core	Marl - medium to light gray, soft, fossiliferous, pyritiferous
	W.R.:	forams and ostracods
		Globotruncana arca
		Globigerina cretacea
		Gumbelina striata
		Bolivina incrassata
		Lenticulina navarroensis
		Planulina sp.
	Age:	Arkadelphia
2200-06	W.R.:	Abundant shell fragments, forams.
		Arenaceous forams noted
		Lenticulina navarroensis
		Vaginulina webbervillensis
	Age:	Arkadelphia
2211		Marl - medium gray, hard
	W.R.:	Trace forams: *Globotruncana acra*: *Gaudrynae sp.*
2206-12	W.R.:	Similar fauna
	Age:	Arkadelphia
2213-14	W.R.:	Pyrite, glauconite grains: arenaceous forams
2213-15	W.R.:	Pyrite, glauconite, arenaceous forams, shell fragments
		Bulimina arkadelphiana
		Globigerina cretacea.
2214-20		Shale - dark gray, non-calcareous
	W.R.:	Pyrite, quartz grains; shell fragments, forams.
		Similar fauna.
2215	W.R.:	Trace arenaceous forams.
2405-07		Shale - dark to med. gray, slightly calcareous, fossiliferous, arenaceous

Interval		Description
	W.R.:	Quartz grains; shell fragments; forams and ostracods *Lenticulina sp.*
2440-47	Core	Shale - do.; sandstone - gray, fine-grained, non-porous soft *Lenticulina navarroensis* *Lenticulina sp.*
2654-68	Core	Shale - dark to medium gray, micaceous, fossiliferous, calcareous
	W.R.:	Arenaceous forams, etc. *Lenticulina sp.* No diagnostic forams.

May 3, 1948 T. H. Philpott

ST. FRANCIS COUNTY

Company: Manning and Martin Well No. 1
Lease: R. C. Gregg
Location: 1650'S 990'E of NWc Sec. 20-5N-5E
Total Depth: 3988 Elevation: 205
Began Drilling: 6-3-37 Completed: 8-9-37
Casing Record: 13-3/8" @ 285'
Source of Information: Missouri Geological Survey log No. 4546 by McQueen, Grohskopf and Hundhausen

Log of Well

Bottom (Feet)	Formation
	(Samples begin at 510 feet)
520	Tan sandy clay, plant remains
1250	Milky white quartz sandstone, coarse sub-angular, some green minerals, tourmaline feldspar
1260	No sample
1300	Milky white quartz sandstone, dark chert, tourmaline hornblende
1480	No sample
1500	Dark gray mud, gumbo, plant fragments
1540	No sample
1560	Gumbo, carbonized plant remains
1570	Light gray clay, lignite
1590	Light gray clay, trace marl
1600	Light gray clay
1630	No sample
1640	Sand, polished and angular, ferromagnesian material
1650	No sample
1660	Light gray clay
1680	No sample
1690	Light gray clay
1705	No sample
1730	Coarse grit, gray shale, plant fossils
	MIDWAY GROUP
	PORTER'S CREEK FORMATION:
1790	No sample
1800	Gray shale
1950	No sample
1970	Gray micaceous sandy shale
1980	No sample
2000	Gray micaceous shale, much mica, plant remains, gray and tan shale

ST. FRANCIS COUNTY—Continued

Bottom (Feet)	Formation
2110	No sample
2120	Gray micaceous sandy shale, much mica
2210	No sample
2220	Gray micaceous shale
2230	No sample
2240	Angular polished sand, garnet, etc. (Re-circulated?)
2330	Sand and gray shale
2350	Gray shale
2370	No sample
2380	Gray shale
2400	No sample
2500	Gray shale
2510	Gray shale, *Nodosaria*
	MIDWAY GROUP
	CLAYTON FORMATION:
2520	Gray, limy shale, *Robulus Nodosaria* ostracods, glauconitic
2530	Gray, calcareous shale, foraminifera
2555	Gray, calcareous shale, pelecypods
2570	Limestone, highly fossiliferous, small gastropods
	ARKADELPHIA FORMATION:
2670	Sandy, glauconitic marl, calcareous glauconitic sandstone last 20 feet
	NACATOCH FORMATION:
2700	Sandstone and gray-tan shale
2870	Sandstone, foraminifera, pyritized gastropods, fish teeth, *Vaginulina sp.*
2900	No sample
2920	Calcareous sandstone
2935	No sample
2950	Calcareous shale, sharks' teeth
2965	No sample
2980	Calcareous shale, small foraminifera
3000	No sample
3050	Coarse sand, gravel, chert fragments (cavings?)
	SARATOGA - MARLBROOK (LOWER SELMA):
3060	Gray, sandy shale
3080	Glauconitic, limy sandstone
3090	Sandy marl, fish teeth
3100	Sandy marl, phosphate pebbles
3175	Sandy marl, some shell fragments
	MARLBROOK FORMATION:
3185	Limy shale
3200	Sandy shale, brown shale
3210	Shaly sand, brown shale
3250	Olive green shale, mica
3260	White marl (?)
	OZAN FORMATION:
3300	Sand, gray shale, original rock obscured by re-circulated material
3325	No sample
3350	Sand, glauconitic
3375	No sample
3405	Sub-rounded polished sandstone, gray micaceous shale, micaceous sandstone
	PALEOZOIC SYSTEM
	STONE RIVER GROUP:
3988	Series of limestones, dolomites and thin cherty layers
	T. D. 3988

ST. FRANCIS COUNTY

Company: Barnwell Drilling Co. Well No. 1
Lease: R. R. Tombaugh
Location: 100' from N/L 1980' E/L Sec. 8-4N-1W
Total Depth: 2671 Elevation: 214
Began Drilling: 4-10-48 Completed: Waiting on orders 8-13-48
Casing Record: 8-5/8" @ 200
Source of Information: C. A. Renfroe, Arkansas Division of Geology

Log of Well

Tops from electric log and from examination of samples from 2400 to T.D.

	From	To
Wilcox	1115	1600
Midway (Porter's Creek)	1600	2048
Calcareous Midway (Clayton)	2048	2110
Arkadelphia	2110	2164
Nacatoch	2164	2455
Saratoga and Older (?)	2455	2646
Basal Sandstone	2646	2669
Paleozoic (Atoka?)	2669	2671 T.D.

Sandstone from 2646 to 2669 was medium-coarse, glauconitic and angular with well developed porosity. The individual quartz grains had a greenish tinge. At the base of the Cretaceous and immediately overlying the Paleozoic floor a concentration of pyrite was found. A small quantity of lignite was associated with the sandstone.

The Nacatoch sand was tested with a Bedingfield tester from 2184-2205. Tool was open for 15 minutes and about ½ barrel of drilling mud was recovered. There was no salt taste.

Core Record:

Core 2205-2209, recovered 2½ feet hard gray calcareous glauconitic sandstone, 1 foot soft sandstone with shaly matrix and 6 inches very porous coarse-grained sandstone with dead asphaltic stain.

ST. FRANCIS COUNTY

Company: D. T. Hargraves, Jr., Trustee Well No. 1
Lease: M. J. Peters
Location: NE¼ NE¼ Sec. 21-4N-1W
Total Depth: 2505 Elevation: 205
Began Drilling: June 28, 1941 Completed: 1941
Casing Record: 8½" @ 872'
Source of Information: Arkansas Division of Geology

Log of Well

Bottom (Feet)	Formation	Bottom (Feet)	Formation
16	Sandy clay	136	Sand and gravel
102	Sand	146	Blue shale

ST. FRANCIS COUNTY—Continued

Bottom (Feet)	Formation
152	Sand and gravel
157	Soft blue clay
261	Sand and gravel, blue clay
272	Med. blue clay or gumbo
287	Gray sandy clay
288	Lignite
290	Hard sand
452	Coarse gray sand
535	Sand
572	Sand and lignite streaks
612	Sand
692	Sand and sandy clay
714	Sand
886	Sand, clay and lignite streaks
1101	Sand
1112	Sandy shale
1142	Sandy shale, lignite streaks
1152	Light green sandy shale
1167	Sandy shale and lignite streaks
1169	Hard broken sand
1177	Sandy shale
1182	Sand
1195	Sandy shale
1227	Gray shale
1346	Sandy shale
1354	Sandy shale broken
1416	Sandy shale
1418	Hard sand
1495	Sticky shale
1532	Sandy shale and lignite
1554	Sandy shale
1562	Gray shale
1622	Sandy shale
1624	Hard sand
1708	Sandy shale
1710	Lime
1726	Sandy shale
1757	Sticky shale
1775	Sandy shale
1874	Shale with lime streaks
1882	Gray shale
1925	Shale with lime streaks
1939	Hard gray shale
1940	Lime
1947	Shale
1951	Broken lime and shale
1977	Shale
1938	Hard sandy shale
1989	Lime
2045	Sandy shale, limey
2048	Lime
2076	Sandy shale
2086	Shale and lime streaks
2092	Shale
2100	Brown lime
2106	Shale and lime streaks
2110	Lime
2130	Sandy shale, limy
2153	Tough shale
2173	Sandy shale
2205	Broken lime and shale
2220	Shale
2242	Sandy shale
2252	Limey shale
2288	Sandy shale
2289	Lime
2291	Sand
2311	Sandy shale and broken lime
2316	Sandy shale
2318	Hard shale
2357	Sandy shale
2362	Sand
2392	Sandy shale
2394	Hard shale
2424	Sandy shale
2427	Chalky lime
2433	Sandy shale
2435	Hard shale
2505	Sandy shale with lime streaks
	T. D. 2505

NOTE: Tops by C. A. Renfroe from electric log:

	From	To
Wilcox	1175	1700
Midway (Porter's Creek)	1700	2113
Calcareous Midway (Clayton)	2113	2220
Arkadelphia	2220	2286
Nacatoch	2286	2505 T.D.

Nacatoch sand in this well was very shaly and tight.

ST. FRANCIS COUNTY

Company: D. T. Hargraves — Well No. 1
Lease: J. T. Wellford
Location: SE NE — Sec. 29-4N-1W
Total Depth: 2265 — Elevation: 210 (Topo map)
Began Drilling: 1941 — Completed: 1941
Source of Information: Arkansas Oil and Gas Commission

Driller's Log of Well

Bottom (Feet)	Formation
20	Surface clay
147	Water sand
180	Sand and gravel
214	Sand and boulders
220	Shale
280	Sand
283	Gumbo
300	Sticky shale
509	Hard cap rock
517	Broken sand
527	Hard sand and boulders
529	Rock
580	Sand, shale and boulders
590	Sticky shale
591	Rock
899	Sand, shale and boulders
929	Sandy shale
960	Gray sand
1020	Blue and brown shale
1050	Shells, blue sandy shale
1080	Boulders, blue and grey shale
1116	Blue and brown sandy shale, boulders
1119	Rock
1145	White water sand
1150	Gumbo
1159	Sandy shale
1182	Gummy shale
1183	Rock
1213	Brown, green and gray shale and sand
1279	Sandy shale
1290	Shale 1 ft. gray lime
1307	Shale, streaks gray lime
1334	Shale and boulders
1428	Sandy shale and boulders
1432	Rock
1455	Sand rock and boulders
1485	Gumbo, boulders and shale
1565	Gray shale-few boulders
1567	Hard rock
1573	Blue shale
1592	Top Midway
1605	Blue shale
2153	Broken lime and black shale (Top Arkadelphia)
2155	Hard brown lime
2220	Tough sticky shale or gumbo
2250	Soft sandy shale
2261	Gray fresh water sand
2262½	Nacatoch cap (cored 1½ ft. Gas cap and 3 ft. sand)
	T.D. 2265

NOTE: Tops from electric log:

	From	To
Wilcox	1122	1675
Midway	1675	

Total depth of electric log, 1755' in Midway.

ST. FRANCIS COUNTY

Company: Walmar Oil Company (Field and Jones) Well No. 1
Lease: F. M. White
Location: 1908' S 170' East NWc Sec. 1-4N-2E
Total Depth: 3411 Elevation: 215
Began Drilling: 2-23-32 Completed: 7-5-32
Casing Record: 10" 141' 8¼" 791'
Source of Information: Arkansas Division of Geology

Driller's Log of Well

Bottom (Feet)	Formation
32	Surface clay and sand
50	Water sand
100	Water sand
103	Gravel
118	Water sand
126	Gravel
134	Water sand
142	Gumbo
152	Gumbo
202	Water sand
252	Sandy shale
312	Gummy shale
328	Blue gumbo
438	Water sand
458	Gumbo
518	Gummy shale
598	Water sand and shale
720	Water sand and shale
772	Water sand
792	Pack sand
932	Water sand and gravel
985	Shale and boulders
1027	Sandy shale and sand rock
1079	Sandy shale
1089	Hard sand
1146	Sand and boulders
1233	Sand and gravel
1248	Gumbo
1338	Gumbo
1365	Sand and gravel
1385	Blue gumbo
1395	Sandy shale
1405	Gumbo
1425	Gummy shale
1445	Gumbo
1447	Hard shell
1480	Shale
1481	Sand rock
1501	Soft gummy shale
1526	Gumbo shale and boulders
1571	Gummy shale
1573	Hard rock
1576	Sandrock and sand
1642	Hard sandy shale
1689	Chalky shale
1724	Gummy shale
1767	Tough gumbo and chalk
1836	Gummy shale
1856	Shale and boulders
1866	Tough gumbo
1905	Shale chalk streaks
1910	Hard chalk
1930	Tough gumbo
1982	Gumbo and shale
1985	Sand
2027	Sand, sandy shale
2095	Gumbo and shale
2150	Gumbo shale and boulders
2215	Shale and soft gumbo
2285	Sandy shale and sand

ST. FRANCIS COUNTY—Continued

Bottom (Feet)	Formation
2345	Tough gumbo, shale and shells
2391	Gray shale and shells
2424	Shale, boulders — shells
2482	Dark and gray shale and gummy shale
2496	Core shale and chalk
2497	Shale
2500	Hard shell
2506	Core hard chalk, shell and sand
2520	Cored sand, soft
2526	Soft sand
2540	Cored soft sand and chalky shale
2558	Soft and hard sandy shale and chalk
2567	Cored 3′ hard shell 6′ soft sand
2581	Hard and soft sand and shale
2593	Cored soft and hard water sand
2677	Limey shale and sandy shale; gummy shale
2691	Cored hard sandy shale and streaks dark and grey sand
2705	Cored shale and sandy shale, sand and streaks shale
2719	Cored white grey sand and sandy shale
2739	Shale and gummy streaks and sandy shale
2753	Cored gumbo and gummy and soft shale
2784	Firm gumbo, tough and soft shale
2802	Sticky shale and sand shale
2816	Cored shale and sand and sandy shale
2830	Cored shale and sand and sandy shale
2843	Cored shale and sand and sandy shale
2868	Gummy shale streaks of lime and hard streaks and sandy shale
2882	Cored gummy shale and chalk and streaks sand
2909	Tough gummy shale and sandy shale
2932	Soft and tough shale and gumbo, hard streaks lime shells hard shale
2944	Cored soft and hard sandy shale dark grey and chalk
2976	Tough gumbo and dark gray shale. Hard and soft and hard white fragments
3008	Tough dark gray and sandy shale
3012	Shale and lignite and dark shale
3050	Tough gumbo, shale and soft chalky shale and chalk
3059	Smooth chalky shale and sandy shale
3067	Cored hard sandy shale and gumbo streaks sand
3148	Soft and hard chalky grey shale and sandy limy streaks and some sand
3162	Cored soft dark greenish grey sand, lignite and soft light sand
3173	Core 8′ soft light sand Core 3′ hard dark shale
3183	Cored 4′ dark hard shale, 1′ lignite and shale, 5′ lignite and sand shale
3197	Cored soft and hard sandy shale and shells and sticky shell
3207	Cored firm sandy shale and chalk and sand
3220	Cored hard shale and sandy shale
3248	Streaks hard shells and lime dark soft shale hard lime streaks
3259	Cored hard shells, lime and dark shale

ST. FRANCIS COUNTY—Continued

Bottom (Feet)	Formation
3261	Very soft sand, light
3269	Cored 2′ soft light sand 4′ very hard dark shale 2′ very hard dark shale with thin lenses, light glazed limy laminations
3283	Cored all black shale, steep splits in core all directions
3293	Dark shale hard and soft with many 2″ 4″ 6″ shells, hard
3307	Core 5′ dark greenish shale and sand, shale hard 2′ soft black shale 6′ hard black shale 1′ hard black shale
3310	Hard dark shale, bit wore out cutting (?) 3′
3316	Cored 1½′ very hard dark shale 2½′ very soft dark shale and 2′ rotten smelly black shale
3393	Hard and soft dark gray and black shale, with hard streaks and sandy shale
3397	Very hard black shale and shells
3411	Very hard black shale five towers to drill 14′ dry abandoned and plugged. T. D. 3411

NOTE: Location 5 miles W of Forrest City
Paleozoic at not more than 3261 feet (Information obtained from George C. Branner).
Letter from Skelly Oil Company, 5-20-38, states: Samples from Sinclair-Prairie from 350′ to 3385′ TD 3411′. Top Nacatoch 2500′: top Paleozoic dark shale 3230′.

ST. FRANCIS COUNTY

Company: J. W. Jennings (B. P. Pace) Well No. 2
Lease: F. T. Whitted
Location: NW¼ NW¼ Sec. 28-4N-1W
Total Depth: 2325 Elevation: 212
Began Drilling: 4-3-22 Completed: 7-5-22
Source of Information: W. M. Valentin, St. Louis, Mo., 6-11-38, and Arkansas Geological Survey Bulletin 2

Driller's Log of Well

Bottom (Feet)	Formation
	QUARTERNARY PLEISTOCENE and RECENT SERIES
20	Sand and clay
140	Sand and gumbo
	EOCENE SERIES JACKSON, CLAIBORNE, and WILCOX GROUP
202	Sand
212	Gumbo
649	Sand and boulders
700	Hard sand
720	Gumbo
751	Sand and boulders
773	Gumbo
779	Sand and boulders
1083	Shale and boulders
1133	Sand
1348	Shale and gumbo

ST. FRANCIS COUNTY—Continued

Bottom (Feet)	Formation
1360	Sand and boulders
1423	Gumbo
1449	Sand and shale
1454	Hard sand
1470	Sandy shale
1507	Gumbo
1524	Sandy shale
1525	Rock
1565	Shale and gumbo
1589	Shale and boulders
1593	Rock
1595	Gumbo
1615	Sandy shale
1633	Gumbo
1638	Shale
	MIDWAY GROUP
1802	Gumbo and boulders
1897	Shale and gumbo
1929	Shale and boulders
1935	Gumbo
2012	Shale and boulders
2014	Limestone
2058	Shale and boulders
2171	Shale and gumbo
	Unconformity
	CRETACEOUS
	GULF SERIES
	NACATOCH FORMATION
2274	Rock
2316	Sand
2322	Rock
2325	Sand; carrying salt water
2325	T.D.

ST. FRANCIS COUNTY

Company: Forest Oil Company — Well No. 1
Lease: Shirley
Location: NW¼ NE¼ NE¼ — Sec. 15-6N-3E
Total Depth: 3201 — Elevation: 309
Began Drilling: 4-19-20 — Completed: 7-7-20
Casing Record: 10″ @ 248′ 4″; 8″ @ 150′
Source of Information: J. T. Robertson of Marianna, 10-23-22, and Arkansas Geological Survey Bulletin 2

Driller's Log of Well

Bottom (Feet)	Formation
	QUARTERNARY PLEISTOCENE SERIES
20	Soft yellow surface material
60	Loose white sand
	EOCENE SERIES JACKSON, CLAIBORNE, and WILCOX GROUPS
105	Soft gray gumbo
200	Soft white sand
225	Soft blue gumbo
238	Soft gray sand
268	Hard white gumbo
520	Soft gray sand
597	Gray gumbo
865	Gray sand
871	Brown gumbo
972	Gray and white shale and sand
977	Lignite
1040	Gray sandy shale
1080	Hard sand, broken with shale
1090	Hard blue gumbo
1190	Hard gray sand
1220	Gray gummy shale
1255	Gray sand and sandstone
1400	Blue and black gumbo
1405	White water sand

ST. FRANCIS COUNTY—Continued

Bottom (Feet)	Formation
1465	Gray, blue, and black gumbo and boulders
1488	Hard gray sand rock
1500	Hard chalky lime
1560	Hard lime rock
1580	Broken sand rock
1700	Gray gumbo
1725	Soft white water sand
1830	Gray gumbo and shale
1845	Soft white sand
	MIDWAY GROUP
2145	Gray gumbo and shale
2200	Gumbo and boulders
2245	Hard gray shale and boulders
2340	Gray shale and gumbo
	ARKADELPHIA FORMATION
2462	Very tough gray gumbo
	CRETACEOUS
	GULF SERIES
	NACATOCH FORMATION
2467	Hard white rock
2520	White and gray sand (water)
2534	Hard gray sandy lime
2562	Soft and hard sand
2602	Soft gray shale
2750	White sand and sand rock
2770	Gray shale and gumbo
2790	Gray and white sand
	SARATOGA CHALK, MARLBROOK MARL, AND OLDER
2870	Gray to dark-gray shale and gumbo
2885	Dark gray shale and sand
2900	Dark gray gumbo
2980	Dark gray gumbo and sand
3020	Dark gray gumbo
3022	Hard gray sand rock
3050	Light gray gyp rock
3072	Gray shale and sand
3130	Tough gray gypsum
3172	White and gray water sand
	PALEOZOIC
3180	Hard sandy shale
3191	Very hard sandstone
3196	Hard sandy shale
3201	Very hard dark gray sandstone
3201	T. D.

ST. FRANCIS COUNTY

Company: Harvey J. Wier and Sons — Well No. 1
Lease: E. P. Lynn et al
Location: Center SE¼ SE¼ SE¼ — Sec. 7-4N-1E
Total Depth: 2796 — Elevation: 205
Began Drilling: January 1948 — Completed: 3-27-48
Casing Record: 8-5/8" - 261' w/50 sks.
Source of Information: Harvey J. Wier

Log of Well

Formation	Feet From	Feet To
Wilcox		1700
Midway	1700	2245
Arkadelphia	2245	2275
Nacatoch	2275	2398
Paleozoic	2792	

NOTE: Most of the sand sections found in Petroleum Products Well in Sec. 17-4N-1W, St. Francis County, were shaled off in this well. The only clean sand found below fresh water sands was found in the Nacatoch. This was a medium-grained, white, loose sand which apparently carried no salt water and no indications of oil or gas.

WHITE COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
* 7	Ark. Invincible Oil Co.	Gravemire	180'S 900'E NWc	29- 8N- 6W	3140	215 ±	7- 3-20	2-20-21
6	Bald Knob Prod. Co.	McLay	SW	18- 8N- 5W	385	293 ±	1921	1921
* 3	Central Ark. Oil & Gas Co.	Choate, J. A.	150'S 330'E NWc NW NW	7- 6N- 9W	2804		1924	1924
* 4	Chancellor, W. C.	Stevenson	SW	14- 7N- 7W	1960	240 ±	1912	1912
†*14	Curtis, R. B.	Sheridan, R.	NW SE SE	31- 6N- 7W	1750	231	1947	1-48
8	Donaphan Lumber Co.	McCain, R. A.	NW NW	20- 8N- 7W	1600	268 ±	1903	1904
†*12	Killam, O. W. & McMillan, L. O.	Curl, J. C.	Cen NE SW	10- 9N- 5W	4772	448	3- 1-44	2- 3-45
*11	Letona Syndicate	Letona Townsite	SEc NW SW	35- 9N- 8W	3644		1929	11-15-29
*13	Lion Oil Co.	Nalley	Cen SE NE	33- 8N- 7W	6397	425	4- 3-45	11- 4-45
2	Skene & Wisby	Horn, R. L.		6- 5N- 9W	1400			
9	White County Oil Co.	Martindill, W. W.	NE NE	3- 9N- 8W	1800		1922	1922
*10	White County Oil Co.	Martindill, W. W. No. 2	200'S 280'E NWc NE SE NE	3- 9N- 8W	1490		1924	1924
* 5	White County Oil Co.	Russell		11- 8N- 5W	1490	215 ±	1906	1906

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

WHITE COUNTY

Company: Killam, O. W. and McMillan, L. O. Well No. 1
Lease: Curl, J. C.
Location: Cen NE SW Sec. 10-9 N-5W
Total Depth: 4772 Elevation: 448
Began Drilling: 3-1-44 Completed: 2-3-45
Casing Record: 16″ @ 20′ 3″; 13″ @ 621′; 10¾″ @ 1748′; 8⅝″ @ 3450′.
Source of Information: Missouri Geological Survey Log No. 8699, samples studied by Grohskopf

Log of Well

Bottom (Feet)	Formation
	PENNSYLVANIAN SYSTEM: (Samples begin at 50 feet)
60	Angular white sand, cemented, little black shale
100	Fine, angular white sand
155	Blue-gray hard shale, little limestone
175	Medium-grained sand, subangular, calcareous cement
210	Blue-gray hard shale, almost black
220	Medium-grained, sub-angular sand, calcareous cement
260	Blue-black platy shale
340	Sand
350	Brown to white sand,sub-angular, cemented
370	Sand, calcareous cement
420	Very fine-grained, well cemented sand
430	Sand as above, some coarse
470	Very fine-grained cemented sand, black interbedded shale
485	Sand, some quartzite
580	Sand, quartzitic with interbedded shale
590	Quartzitic sandstone
600	No sample
635	Blue-black hard shale
700	Hard quartzitic sand, some blue-black shale
725	No samples
810	Blue-black shale, hard
900	Hard quartzitic sand and interbedded black shale
940	Medium grained angular sand, well cemented
960	Medium-grained sand, dark shale
1000	Quartzitic sand
1040	Interbedded sand and shale
1050	Interbedded sand and shale
1090	No samples
1210	Blue-black shale and sand
1255	No samples
1285	Medium-grained, sub-angular sand
1318	Sandy black shale
	PENNSYLVANIAN SYSTEM MORROW GROUP:
1330	Black shale, blocky
1360	Black micaceous shale
1370	Black micaceous shale, pyrite
1410	Black micaceous shale
1430	Gray sandy shale, blocky
1590	Gray and black shale
1640	Gray and black shale, some sandy shale
1720	Gray-black shale
1755	Gray-black shale, trace cream crystalline limestone
1840	Gray-black shale
1850	White, very finely crystalline limestone, very tiny oolites
1900	Gray-black shale
1910	Gray-black shale, trace angular medium-grained sandstone
2350	Gray-black shale
2370	Fine sand, plant remains

WHITE COUNTY—Continued

Bottom (Feet)	Formation
2430	Gray-black shale
2610	Slightly limy, dark gray hard shale
2640	Dark gray shale
2665	No samples
2695	Slightly limy, very dark gray shale stain
2728	No samples
2780	Dark gray to black, slightly limy shale
2925	No samples
2940	Dark gray to black shale, trace calcareous green sandstone
3310	Gray-black shale
3448	No samples
	SILURIAN SYSTEM (?):
3460	Limestone, very fine angular sandstone in residue
3475	No samples
3565	White crystalline limestone with traces very fine angular sandstone and pyrite in residue
	ORDOVICIAN SYSTEM
	KIMMSWICK FORMATION:
3575	Cherty limestone, chert is tan translucent and dense
3590	No samples
3600	Limestone, white, opaque, chert
3650	Limestone, residue shows pyrite, white quartzitic chert
3665	Limestone, green shale in residue
3675	No samples
	ORDOVICIAN SYSTEM
	PLATTIN FORMATION:
3700	Dense, tan limestone, fossiliferous, silty residue
3790	Dense, tan limestone, silty residue
3800	Tan limestone, green shale in residue
3850	Dense, tan limestone, waxy green shale in residue
3870	Tan limestone, pale green to gray shale in residue, pyrite
3905	Tan limestone, quartz crystals and very fine sand in residue
	ORDOVICIAN SYSTEM
	JOACHIM-ST. PETER FORMATION:
3915	Dolomite, extremely fine sandstone in residue
3925	Limestone, white silt in residue
3945	Dolomite
3955	Limestone
3965	Dolomitic limestone, with coarse rounded frosted quartz grains
3975	Coarse frosted quartz sandstone
3995	Dolomitic limestone, frosted quartz grains
4010	Well-cemented sub-angular sandstone
4050	Dolomitic sandstone
4070	Sandy dolomite
4097	Dolomitic sandstone
	ORDOVICIAN SYSTEM
	EVERTON FORMATION:
4120	Dolomite, trace of green dolicastic shale in residue
4200	Dolomite, extremely fine sandstone or silt in residue
4230	Dolomite
4240	Dolomite, trace dark shale
4250	No sample
4280	Dolomite, medium-fine sand in residue
4330	Cream, sandy dolomite with slick green waxy shale in residue

WHITE COUNTY—Continued

Bottom (Feet)	Formation
4360	Greenish silt or very fine-grained sandstone, gray dolomite
4390	Light to dark gray dense limestone
4400	White, finely crystalline dolomite
4420	Dark gray, dense limestone
4430	Black crystalline dolomite
4440	Dark gray, dense limestone
4450	Dolomite, silty residue
4470	Dark gray, dense limestone
4490	Medium crystalline dolomite
4500	Limestone, trace brown shale
4590	Limestone, dolomite and dolomitic limestone
4620	Limestone, dolomite with rounded frosted quartz grains
4772	Dominantly limestone with few layers dolomite. Silty residue
	T. D. 4772

WHITE COUNTY

Company: R. B. Curtis — Well No. 1
Lease: Richard Sheridan
Location: NW SE SE
Total Depth: 1750 — Elevation: 231
Began Drilling: 1947 — Completed: January, 1948
Casing Record: 10″ casing @ 103′; 8″ casing @ 270′; 6¼″ casing @ 1000′; 4-7/8″ casing @ 1750′
Source of Information: R. B. Curtis, Stuttgart, Arkansas

Log of Well

Interval	Formation
0- 82	Alluvium and water sand
82- 254	Blue clay
254- 265	Hard limy sand rock
265- 400	Dark hard micaceous rock
400- 585	Hard cherty formation
585- 600	Hard brown sand
600- 615	Soft gray sand
615- 660	Dark hard cherty formation
660- 730	Shale streaks, blue and soft, dark and hard
730- 760	Dark hard cherty formation
760- 770	Dark hard cherty formation with thin soft streaks
770- 885	Dark hard rock
885- 900	Hard dark sand (set 6¼″ casing)
940- 955	Very dark and hard gritty rock
955- 956	Very soft blue mud opening
956- 975	Dark hard gritty rock with lime
975- 980	Dark hard cave boulders
980-1000	Dark hard gritty rock (reamed hole and reset 6¼″ casing)
1000-1005	Dark hard coarse gritty rock
1005-1015	Dark yellowish sand
1015-1025	Dark hard gritty rock
1025-1030	Soft shale and dark gumbo

WHITE COUNTY—Continued

Interval	Formation
1030-1100	Hard shale and gumbo, some lime in shale
1100-1200	Shale and gumbo, hard shells
1200-1220	Gumbo and shale, dark and sticky
1220-1235	Dark hard gritty rock
1235-1310	Shale and gumbo, dark and hard
1310-1380	Shale and gumbo, dark, hard and soft
1380-1582	Dark sticky gumbo and shale interspersed w/hard lime rock
1582-1590	Sand rock, with water
1590-1605	Dark hard gritty rock
1605-1614	Sandy lime and shale
1614-1683	Dark brittle shale
1683-1695	Sandy lime rock, water
1695-1705	Hard sandy lime rock (tight)
1705-1740	Hard sandy lime (tight)
1740-1750	Hard sandy lime (tight)

This well was drilled to 400′ with rotary, then on with cable tools.

NOTE: Top of the Paleozoic on this well at 335′ by samples. Had faint stain of high gravity oil or gas in fine-grained tight sandstone of Atoka age in the interval from 1675-1700.

WOODRUFF COUNTY

Log No.	Owner	Lease	Description	Sec-Twp-Rge	Total Depth ft.	Elevation ft.	Began Drilling	Finished Drilling
* 7	Gregory, W. D.	Gregory, W. N.	SWc SE SW	6- 6N- 3W	1675	200	4-17-24	2-20-26
* 8	Knox & Adams	Howell	SE SW	25- 6N- 3W	1785	220	6- ?-22	10- ?-22
†* 5	Knox & Adams	James	SE SW	9- 5N- 2W	1896	220	10- ?-22	1- ?-23
‡ 10	Tatum & Watkins	Miller	SW SE SE	7- 5N- 2W	1770	215		2-20-41
*11	Taubman, H. P.	Terry Peel	NE NW NE	26- 6N- 3W	1599	200	9-10-48	10- 8-48
†* 1	Thompson, B. F.	Rosser, Harry	500'N 500'E SWc SE SE	7- 5N- 2W	1765	214	9-15-32	5- 2-33
* 2	Watkins, John N.	Rosser, H. D.	330'N 350'W SEc NE SE	7- 5N- 2W	2022	225	10- 9-33	3-16-34
* 6	Watkins, J. N.	Upshaw, Chas.	330'N 330'E SWc NW SW	17- 5N- 2W	2076	195	10- 4-34	12- 4-34
‡ 9	Watkins, J. N.	Nathan, S.	NE NE NW	18- 5N- 2W	1732	197		2- 3-41
†* 3	Woodruff County Ark. Syn.	Rosser, Harry	200'N 200'W SEc SE SE	7- 5N- 2W	2111	217	3- 7-25	5-21-25

* Log available from Division of Geology.

† Log included in text.

‡ Electric log has been run.

WOODRUFF COUNTY

Company: B. F. Thompson — Well No. 1
Lease: Harry Rosser
Location: 500'N 500'E of SWc SE¼ SE¼ — Sec. 7-5N-2W
Total Depth: 1765 — Elevation: 214
Began Drilling: 9-15-32 — Completed: 5-2-33
Source of Information: Arkansas Board of Conservation official log.

Driller's Log of Well

Bottom (Feet)	Formation
4	Surface soil
8	Clay
60	Pack sand
80	White water sand
96	Pack sand
105	Gray water sand
150	Fine gravel
200	Pack sand
220	Heavy gravel
545	Pack sand
730	Shale and boulders
732	Rock
920	Shale and hard streaks sand
940	Lignite
1035	Green sand
1037	Hard lime rock
1103	Gray gumbo
1170	Shale hard streaks sand
1320	Gumbo and gummy shale
1476	Shale
1600	Black shale
1717	Gray gumbo
1719	Sand cored
1720-6	Rock, some lime - cored
1724-6	Sand - cored
1725	Lime rock - cored
1727	Sand
	NOTE: Following Correction Made by John N. Watkins
1719	Hard sandy lime
1727	Sand
1730	Sandy lime - hard
1734	Sand
1737	Very hard lime (Little sand)
1752	Soft sand - salt water
1765	Gummy sandy shale
	(Drill stem test made at 1717 Tester opened 12 minutes fluid rose 13 thribles.)
	T. D. 1765

UNITED GAS SYSTEM
Rusk Building
Houston, Texas

C O P Y — May 20, 1933

Dr. George C. Branner
State Geologist
Arkansas Geological Survey
Rooms 443-447, State Capitol
Little Rock, Arkansas

Dear Dr. Branner:

Enclosed is report on the cuttings from the B. F. Thompson, Rosser No. 1 well in Sec. 7-5N-2W, Woodruff County, Arkansas.

The Midway foraminifera found are from the lower portion of the Louisiana-Mississippi-Arkansas Midway. We were rather surprised not to find any Arkadelphia forams. I would be inclined to interpret 1035 as

the base of the Wilcox, and 1717 as the top of the Nacatoch although no Cretaceous forams were recognized. If we accept the latter, we might as well put the top of the Arkadelphia at 1600.

(Signed)
M. C. Israelsky

MCI/b

1660-80	Cuttings	Medium gray shale. (WS) Sand, glauconite, pyrite, *Cristellaria midwayana* *Vaginulina gracilis, etc.* MIDWAY
1700-10	Cuttings	Same. (WS) Same. Midway faunule.
1710-18	Cuttings	Same. (WS) Chert pebbles, coarse sand, glauconite, single arenaceous foram.
1718-22	Cuttings	Light gray calcareous sand. (WS) Fine-grained, few oyster shell fragments.
1718-22	Cuttings	Same. (WS) Same. A single *Cristellaria midwayana* present.
1722	Cuttings	Same. (WS) Same. Few shell fragments.

M. C. Israelsky

WOODRUFF COUNTY

Company: Knox and Adams — Well No. 1
Lease: James
Location: SE SW — Sec. 9-5N-2W
Total Depth: 1896 — Elevation: 220
Began Drilling: October 1922 — Completed: January 1923
Source of Information: Arkansas Division of Geology

Log of Well

Bottom (Feet)	Formation	Bottom (Feet)	Formation
24	Soil and sub-soil	493	Packed sand and gravel
42	Water sand	508	Shale
51	Sand and gravel	516	Packed sand
114	Water sand	540	Sand and gravel
153	Sand and gravel	560	Shale, sandy
160	Packed sand	588	Packed sand
176	Sand and gravel	597	Shale
211	Water sand	650	Shale and gravel, some bldrs.
223	Packed sand	676	Shale
316	Water, sand and gravel	693	Packed sand
323	Gumbo	714	Shale, sandy
334	Packed sand	802	Packed sand, soft streaks
380	Water sand	832	Shale gray gummy
393	Packed sand	864	Gummy, blue
395	Lignite	869	Rock, containing lime
410	Shale	875	Porous rock

WOODRUFF COUNTY—Continued

Bottom (Feet)	Formation
881	Gumbo, green
883	Lignite
911	Shale
940	Gumbo
942	Rock
951	Hard sand
953	Lignite
993	Gumbo
998	Rock
1017	Gumbo
1045	Shale
1100	Shale, sandy shale dark brown
1142	Gumbo
1164	Chalk, rock
1166	Shells
1175	Sand
1203	Gumbo
1208	Rock
1252	Gumbo
1268	Shale
1295	Gumbo
1301	Shale
1397	Gumbo, soft streaks
1440	Shale
1490	Gumbo
1530	Shale
1650	Shale, gray
1675	Gumbo, soft streaks
1761	Shale, Cretaceous gray
1765	Rock
1818	Gumbo
1842	Shale
1854	Rock, lime, in casing set
1896	Sand, Nacatoch

WOODRUFF COUNTY

Company: Woodruff County Arkansas Syndicate Well No. 1
Lease: Harry Rosser
Location: 200' N 200'W SEc SE¼ SE¼ Sec. 7-5N-2W
Total Depth: 2111 Elevation: 217
Began Drilling: 3-7-25 Completed: 5-21-25
Source of Information: Arkansas Division of Geology

Log of Well

Bottom (Feet)	Formation
15	Clay
30	Sand
50	Sand and gravel
70	Sand and gravel
190	Sand and boulders
200	Hard sand set 200' - 12½" surface casing (cemented)
235	Sand
240	Gravel
340	Sand
400	Sand and boulders
410	Lignite
550	Sand
620	Sand and gravel
690	Gravel
740	Gumbo
750	Gumbo
780	Gray shale
800	Gumbo
802	Rock
880	Gumbo
900	Gray shale
970	Gummy shale and boulders
975	Sand
1000	Gummy shale
1002	Rock
1013	Gummy shale
1015	Rock
1035	Gummy shale
1063	Gumbo

WOODRUFF COUNTY—Continued

Bottom (Feet)	Formation
1065	Rock
1070	Gummy shale
1075	Rock
1085	Gummy shale
1090	Rock
1092	Rock
1109	Gummy shale
1110	Rock
1120	Gumbo
1175	Gummy shale
1200	Shale
1345	Gummy shale
1385	Shale (rat holed from 1345 to 1375, 8 hours)
1410	Gumbo
1470	Shale and boulders
1520	Gummy shale
1600	Gumbo
1635	Gummy shale
1698	Gumbo
1702	Sand rock (reduced hole to 7 7/8" at 1700 and rat holed to 1754)
1730	Sandy shale (took cores at 1705 and 1730)
1740	Sand
1742	Sand rock
1746	Sand, steel lined measurement corrected depth 1748, witnessed by F. Schaill. Set and cemented 8 joints. Used 75 sacks cement.
1750	Sand rock (cored from 1750 to 1754)
1770	Salt water sand (baled and tested) Nacatoch.
1802	Gummy shale
1827	Shale
1860	Gummy shale
1885	Gumbo
1894	Sandy shale
1930	Lime rock broken (cored from 1895 to 2038)
1932	Hard lime rock
2005	Hard black shale
2038	Hard black shale
2075	Hard black shale
2111	Hard rock
2111	Total Depth

NOTE: Paleozoic at 1894' (Information from G. C. Branner). Also received log from W. M. Valentin, 6-11-38.